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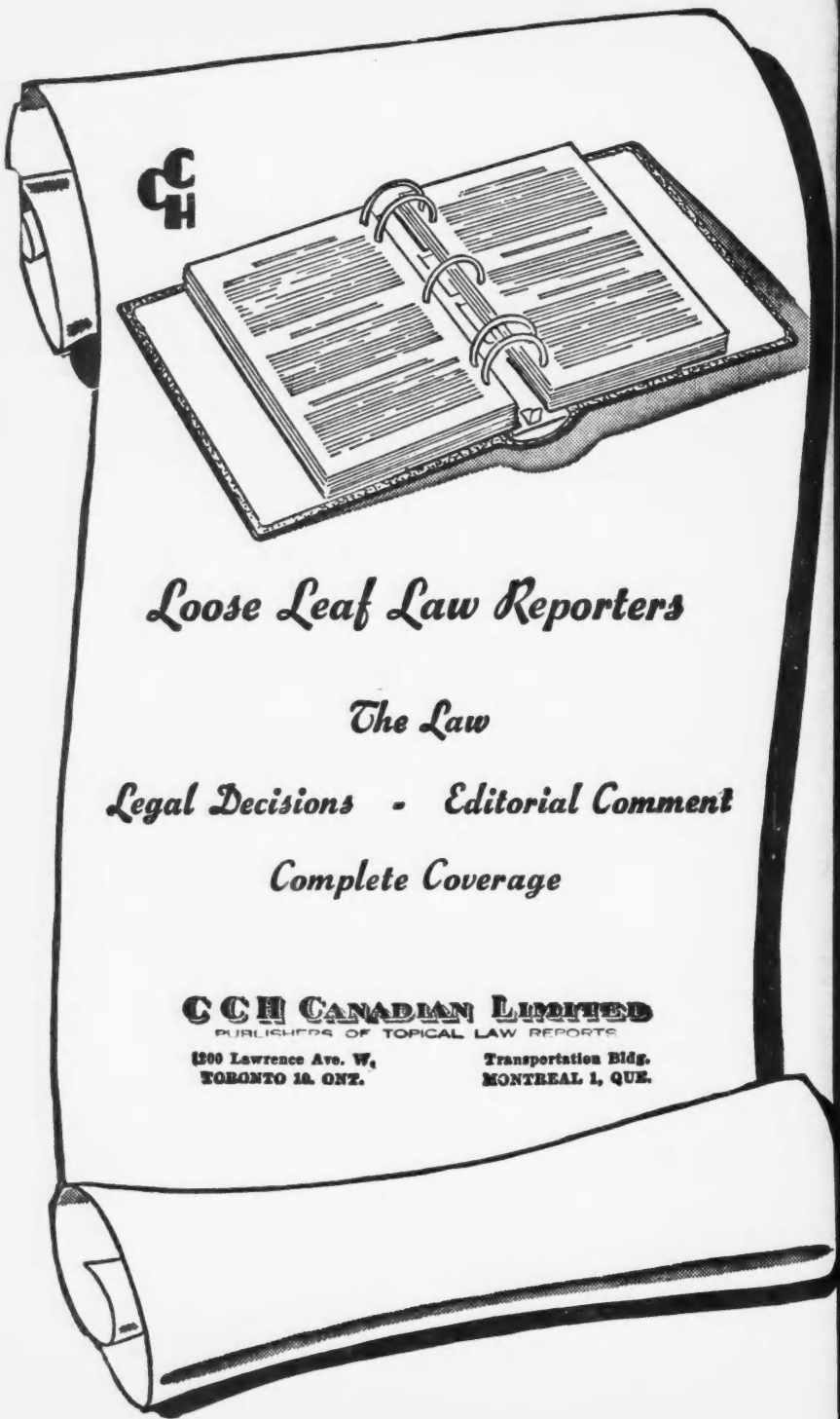

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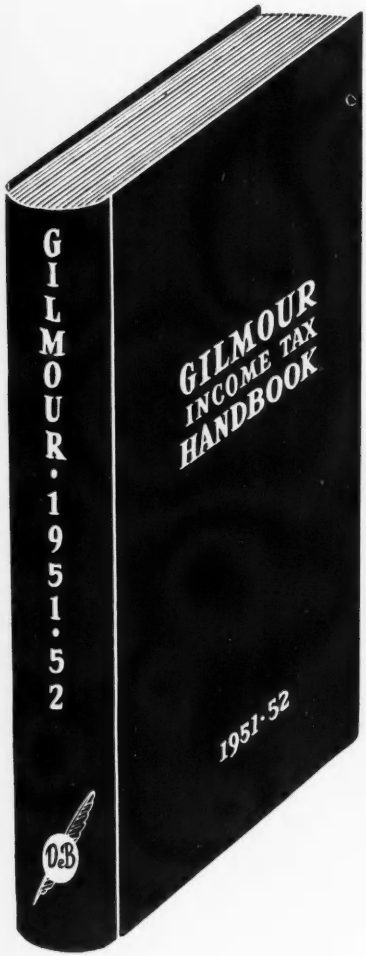

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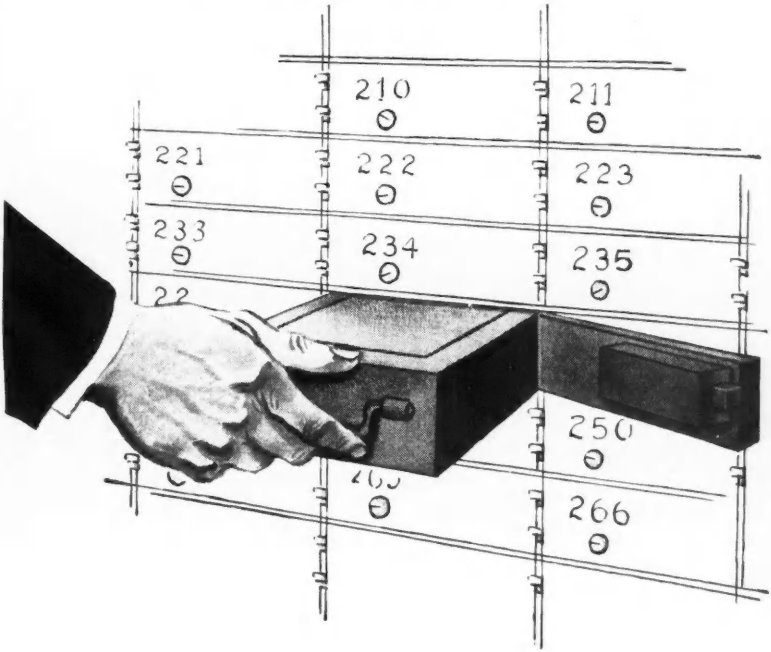

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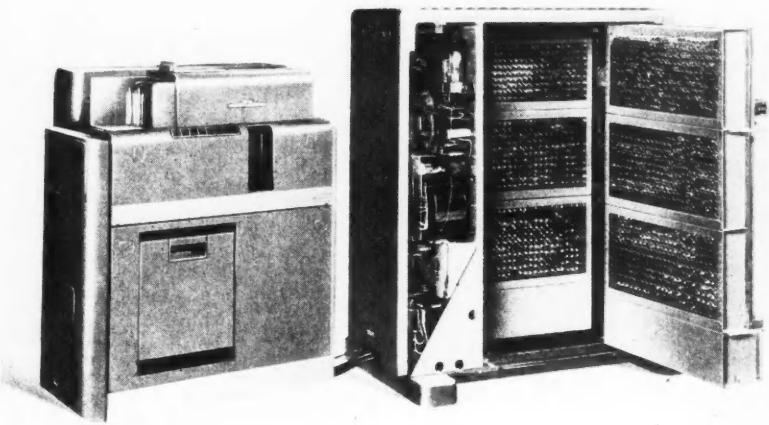

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COMMENT AND OPINION

The Examinees

NOW that the post-mortems are over, and the more than 1500 intermediate and final students have returned to a state of near normality, perhaps we may be allowed to express our sympathy for them and our congratulations that they have come through their trial at least physically unscathed. We assure them, moreover, that our kindest thoughts will continue in the direction of each and every one of them until the dread day on which the results are announced has come and gone. We are informed that in the entire history of the uniform examinations it has never yet happened that everyone writing the examinations has passed them. Perhaps this will be the year. Then again, perhaps not. We wish it could be.

In the last three years the intermediate examinations have been vanquished by just above half of those writing them, the percentage of successful candidates being 53.8% in October 1948, 54.1% in October 1949, and 51.8% in October 1950. In the same period the final examinations have been held four times, and although the proportion of success has not in those years exceeded that for the intermediate examination it did rise very decidedly in 1950 on both final examinations held in that year. Thus, in October 1948, of the candidates writing the final examination only 37.2%, and in October 1949, only 32.4%, passed, whereas in May 1950, 46.1% passed and in October 1950, 51% were successful.

The trend is thus in the right, namely upward, direction, and we join with those who are now enjoying the relief that comes after prolonged anguish in the fervent hope that it won't deviate, not this year anyway.

The Royal Tour

THE tour of Canada by H.R.H. the Princess Elizabeth and H.R.H. the Duke of Edinburgh, which will have just concluded at the time of reading, will, we are sure, have been a resounding success. Certainly all the country eagerly awaited the opportunity to offer its tribute to the gracious young woman who some day may be Queen of Canada and of the other dominions of His Majesty her father.

Since the war there has been a subtle change in the texture of the Commonwealth which is under the King's suzerainty. The growth in population and industrial power of the United States and the U.S.S.R. since the first great war has had its effect on the position of Great Britain and the British Empire. Many of the imperial conquests are no more. The India of Clive and Hastings has gone; in its place stand two new Republics which are free to go their own way

at any time. Burma has already taken the road of independence. Malaya is the seat of violence. In Iran, a shrewd political intellect has found in the critical division of the great powers an opportunity to destroy Britain's economic dominance, and as we write Britain's vital control of the Suez canal is under threat.

These problems of Great Britain are not Canada's problems directly but only as one of the United Nations. Canadians, however, have rarely found British interests or British policy at odds with their own views of the interests of humanity, and it is not only because of ties of blood and tradition that Great Britain can usually count on Canadian support when her position in the world is assailed. Two great wars speak eloquently to that.

The cheers and the crowds, the bands and the bunting, of which the Princess and the Duke will have seen and heard so much during the weeks of their tour will indicate to them, and to others no doubt, that beneath it all lies the deep-felt devotion of the people of this country, not perhaps to the idea of royalty, but rather to the ideal which Britain and the Commonwealth represent.

A Uniform Course of Instruction?

THE federal structure of Canada, with its division of powers between the national government on the one hand and the provincial governments on the other, is outwardly duplicated by the organization of the chartered accountants in this country. In reality, of course, there is an important difference, for whilst the Dominion Parliament possesses a paramountcy over the Provincial Legislatures, the only authority possessed by The Canadian Institute of Chartered Accountants is that delegated to it by the provincial Institutes, any one of which is free to withhold or withdraw its concurrence at any time. The autonomy of the provincial Institutes has not, however, furnished any real obstacle to the growth and development of the Canadian Institute, which through the years has steadily grown in prestige and influence, and always by the free and unanimous will of the provincial Institutes. What the reasons for that may be need scarcely be stated; they will readily occur to everyone.

Perhaps the chief achievement of the profession in this direction has been the successful establishment of the uniform examinations, which have been conducted for many years now. True, the uniform examinations are under the direction of a Committee and Board of Examiners appointed by the provincial Institutes rather than by the Canadian Institute, but since the affairs of the Canadian Institute are managed by an Executive Committee and Council who are themselves nominated by the same provincial Institutes it is a distinction with but little difference.

With the experience of the uniform examinations behind us, the idea of a uniform course of instruction, insofar as the special circumstances of the several provincial Institutes will permit it, has been gaining strength in recent months. In Canada, education is and always has been a subject of provincial legislative competence and, so far as this profession is concerned, has perhaps been the chief subject of concern to each of the provincial Institutes. To establish a uniform course of instruction is thus not a simple matter; there are many difficulties to be faced, many differing views to reconcile. Nevertheless, as a result of resolutions passed at the last annual meeting it is now on the way, and perhaps some incipient steps towards the goal will soon be taken.

Western Canada Oil and Gas: How Far So Far, and How Much Farther To Go

By Carl O. Nickle
Publisher, "Daily Oil Bulletin"

Western Canada's black gold has started an economic revolution in this country

WRINKLE-SEEKERS and hole-diggers have started a revolution in western Canada, a revolution that has already sharply altered the economy of the middle half of Canada, particularly that of Alberta, is increasingly making its weight felt on the economy of all Canada, and is helping reshape world thinking on sources of vital petroleum supply for both peace and war.

This oil revolution reflects the joining together of the free enterprise of Canada and the United States for the exploration and development of the once-remote petroleum and natural gas resources of Canada's West. That teamwork has brought results — big enough to stagger the imagination, but as yet only a small fraction of the probable ultimate results. Added to the team in fairly recent months has been European capital, an ally whose part will be expanded in the future to make western Canada oil another symbol of the mutuality of purpose and basic ideals of North American and Western European nations.

1914: Turner Valley

In 4½ years over half a billion dollars has been poured into western Canada by a host of Canadian, American and European oil companies, and by banks, investment firms, and the general public of Canada and the United States. The revolution had its real beginning back in 1914, when a group of ranchers, farmers, and businessmen from the Calgary area drilled into production a 2,700 foot well at Turner Valley, 30 miles southwest of Calgary city in the southern foothills of Alberta. From that discovery grew, as drilling proceeded deeper, the British Empire's first major oil and gas field, a field that reached its peak of 30,000 barrels daily during World War II while it played an important role in the Canadian war effort. Today over 1,000 billion cubic feet of gas and 107 million barrels of oil produced since discovery, Turner Valley is a field past middle-age, its production waning, but with many years of diminishing useful life to southern Alberta's economy still ahead of it.

Turner Valley made the world's oilmen sit up and take notice of the possibilities for oil and gas on the plains of western Canada and the foothills of Alberta. Through the 1930's and

An address to the 49th annual meeting of the C.I.C.A., Banff, Sept. 5, 1951

1940's upwards of $50,000,000 was poured by oilmen into the oil and gas search in the region. Along came discovery of several important gas fields, and several small oil patches but nothing of a size to fulfil the high hopes created by Turner Valley.

1946: Outlook Bleak

By the end of 1946 the outlook was bleak. Exploration spenders were down to a scant dozen, and spendings for development and exploration had declined to only one million dollars a month. Only 19 drilling rigs (hole-diggers) and a dozen geophysical survey crews (wrinkle-seekers) were working. The western Canadian oil and gas play seemed to be dying.

Then on February 13, 1947, Imperial Oil Limited, Canada's leading explorer, hit the jackpot after a multi-year, $23,000,000 program that had included over 120 exploratory dry holes. The jackpot was Imperial-Leduc No. 1, on the plains of central Alberta, 20 miles southwest of Edmonton. The discovery well poured out 1,000 barrels of oil daily from a mile-deep Devonian coral reef formation. It brought the first proof of major oil prospects on the Canadian plains, shocked the world oil industry into a new and greater realization of Canada's potentialities. Oil firms and investment capital flocked in, and the oil play started a rapid expansion. Here are some measures of the expansion, and of the results.

At the start of 1947 oil production was only 19,000 barrels daily; the Prairie Provinces were dependent for over two-thirds of their needs on imports from the United States and were faced with sharp increases in products' costs because of the mounting cost of oil brought in by rail from as far away as Texas and Louisiana.

Today western Canada's oil production is better than 170,000 barrels daily, about a 900% boost in 4½ years. Actual "potential" (or ability to produce) is now over 200,000 barrels daily. The Prairie Provinces are self-sufficient, and Alberta oil started flowing this year in large volume into Ontario (1,900 miles away) and also started in sizeable volume into the mid-west United States market.

At the start of 1947 western Canada's proved oil reserves were less than 100 million barrels. Today the proved reserves exceed 1,200 million barrels — a boost of almost 1,300%. More complete evaluation of a string of recent discoveries plus expected new discoveries could raise the proved oil-reserves to between the 1,500 and 2,000 million barrels level in 1952. Ninety-five per cent of the present reserves are located in Alberta, the chief region of exploration to date.

Natural gas reserves are being boosted rapidly by discoveries in over 70 Alberta areas in the past four years, with about 30 of these areas bringing discovery in 1951. The total proved gas reserves in Alberta are now variously estimated at between 5 and 12 trillion cubic feet, dependent on the appraiser's rating of the many one-well gas strikes not yet fully evaluated. In recent weeks Saskatchewan came through with three gas discoveries, to open more bright areas of promise.

The gross worth of the various oil and gas reserves so far found is well over 4 billion dollars. The value is large, but it is still small when one considers that western Canada contains over 350,000 square miles of territory geologically favourable for oil and gas accumulation, and less than 5% of that huge region has so far been fully evaluated by the oil seekers.

Development in Infancy

Texas, Oklahoma, California and

Louisiana, the four greatest U.S. oil states could be placed inside the boundaries of western Canada's known and potential oil belt and still leave plenty of territory uncovered. The intensity of exploration in western Canada to date is far less than 1% of the intensity to date in the four great American states. It is not surprising, therefore, that many oil authorities think of western Canada's oil in terms of "a million barrels a day plus" not so many years hence. What's being done to achieve that happy state?

There are today 145 geophysical survey parties, seismographs, gravitymeters, and magnetometers, probing western Canada for buried rock wrinkles that might be oil or gas structures. At the time of Leduc's discovery the number of crews was only 15. Today there are 108 geophysical units in Alberta, making that Province the world's second most active area of geophysical exploration (Texas is No. 1). Saskatchewan now has 30 parties working and southwest Manitoba has seven. Both are new highs for these Provinces, reflecting a rapid increase in exploration in recent months.

Early in 1947 western Canada had only 20 drilling rigs working. Today the number is over 193, an all-time high and of these over 113 rigs are drilling on exploratory locations seeking new oil and gas fields. The balance are developing known fields. Alberta has the lion's share of the rigs, while Saskatchewan has 18, British Columbia four, and Manitoba three.

Exploration Broadens

Today the exploration play spreads over 150 million acres in western Canada, contrasted with active exploration on less than 20 million acres 4½ years ago. Today the spending rate on land acquisition, exploration and development is running around $4,000,000 a week, a 1,600% boost over the $1,000,000 per month rate that preceded Leduc. Some 200 companies and syndicates, including about 65 United States groups, are taking part in the play.

Mr. Carl O. Nickle was born in Winnipeg and educated in Calgary. On leaving Mount Royal College, he took up journalism as a career and put in a year as a newscaster for radio station CFCN. In 1937 he launched his "Daily Oil Bulletin" at Calgary, and he is also co-editor of the magazine "Oil in Canada".

Leduc, the field that started the modern "oil boom", has emerged as a 275 million barrel oil reserve, rating as the world's largest single discovery of 1947. An even richer find, Redwater, came along in 1948. This Devonian reef field, now rated a reserve of 700 million barrels, was the world's largest single oil find in 1948. It is in central Alberta, 50 miles northeast of Leduc.

The year 1948 also brought discovery of Pincher Creek, in the southwest Alberta foothills. Pincher is now rated a major "wet gas" reserve capable of producing 1,600 billion cubic feet of gas, over 30 million barrels of light oil, and millions of tons of sulphur.

Since then about 25 more oil discoveries and some 50 gas discoveries have been made. Among the oil finds of importance are Golden Spike, Wizard Lake, Acheson, Duhamel, Joseph Lake, Stettler, Big Valley, Excelsior, Normandville, Drumheller, and other names that will become more familiar to the public and the oil industry in months ahead. Among gas names that will become more prominent are Pakowki Lake, Whitelaw, Many Islands

Lake, Cessford, Morinville, and others. The drill has still to provide the answer on the full worth of the oil and gas reserves discovered since 1948.

The Outlook

Where will western Canada's future oil and gas discoveries be made? Dame Nature and the oil seekers have provided part of the answer already.

Central Alberta, where Leduc, Redwater and a number of other fields have already been found, is the most intensively explored part of Canada so far, but discoveries are still being made and prospects for many more are bright.

The south central and southern Alberta plains, source of several small oil and gas fields found years ago, have come through with a string of Devonian coral reef oil and gas discoveries the past two years, stretching up to 150 miles south and southeast of the Leduc area. Several large gas reserves have been found the past year in formations above the Devonian. Relatively unexplored, this belt is a rich hope for the future.

The northern Alberta plains, notably the Peace River region, have provided a string of gas discoveries plus oil encouragement in the initial exploration efforts of the past three years. This scarcely touched region, stretching for several hundred miles north of the Leduc-Redwater area, looks like one of the great oil and gas prospects for the future. The adjoining northeastern sector of British Columbia shows comparable promise.

The Alberta foothills belt, that complicated line of buried mountain ridges paralleling the Rocky Mountains to the east, has already provided the rich Turner Valley oilfield and the Pincher Creek and Jumping Pound wet gas fields. It offers numerous prospects for further major oil and gas finds.

Southern Saskatchewan and southwest Manitoba, a vast area now at the early stages of a major exploration play, has provided in recent months a wave of encouragement. Manitoba has come through with a small oil discovery, the first in that Province, while southwest Saskatchewan has provided three gas discoveries and some shows of oil. To the south across the U.S. border, on part of the same great geological basin, light oil and gas in large volume have been discovered recently at a well in northwest North Dakota while light oil has been discovered at a well in northeast Montana. This Williston-Moose Jaw Basin on both sides of the international border, is 1951's brightest addition to the potential major oil and gas regions of the world.

Western Canada's first Devonian reef oilfield, Norman Wells, is in the Northwest Territories about 1,000 miles north of Alberta's string of Devonian fields. The intervening territory, between Alberta and the Arctic Ocean, is another virgin, but potentially great, oil and gas region.

The McMurray Tar Sands of northeast Alberta, estimated to contain from 100 to 300 billion barrels of heavy, molasses-like bitumen, are the world's largest known source of petroleum. The time is approaching when economic development of the sands will be possible.

The Race for Markets

The Alberta discoveries have started, as did earlier major discoveries elsewhere in the world, a gigantic race between expansion of reserves and growth of markets. First major step was the construction in 1950 of a $90,000,000, 1,150 mile pipeline from central Alberta to the Great Lakes. With a current intake of 100,000 bar-

rels daily, that pipeline is carrying Alberta crude at low cost to Saskatchewan and Manitoba refineries, and to its terminus at Superior, Wisconsin, from where large volumes of crude move by tanker into Ontario and a smaller volume now is delivered to a new refinery serving a midwest U.S. market. By this fall, carrying capacity of the pipeline will be raised 50%, to permit movement of about 150,000 barrels daily in 1952. Further expansion will come in 1952.

Already nearly $100,000,000 worth of refinery construction or enlargement has been launched as a result of the Alberta oil finds. More than half of the current program has already been completed and the balance will be completed next year. It includes large new refineries in, or enlarging of, present plants in Alberta, Saskatchewan, Manitoba, Ontario, and Wisconsin. In less than two years, Canadian crude will have transport and refining facilities for a year-round production exceeding 200,000 barrels daily, on the Prairies and in the east.

Looking ahead to further growth of oil reserves, the industry now rates as highly probable an Alberta to Pacific Coast oil pipeline, and a major refinery construction program in British Columbia, Washington, and Oregon. The overall cost would be at least $200,000,000. In the Pacific Northwest there is an expanding market already consuming over 250,000 barrels of petroleum daily. Some 80% of that market is in the U.S.

In the U.S. Midwest is another great marketing area, expanding steadily beyond its present quarter million barrels daily demand. That region is another logical economic outlet for the oil of western Canada. Today it is drawing about 3,700 barrels daily from Alberta. A year from now a new 12,000 barrel refinery will boost the share of that market available to Canadian crude.

Gas Export

Last January the Alberta Government announced that it favours natural gas export as soon as adequate reserves are proved, and it spurred the gas research by "incentive regulations". Since then gas reserves have been growing fast, with discoveries in seven months in over 25 more Alberta areas, and in three sections of Saskatchewan. In September the Alberta Government is reviewing the gas picture. Odds strongly favor that it will decide that reserves are now big enough for Alberta to share its gas wealth with its neighbors, and that the way will be cleared for the Canadian Government to approve one or more of several gas export pipeline bids now before it.

Four major export plans are to be considered, each costing anywhere from $100 to $230 millions. One plan would pipe Peace River region gas through British Columbia to Vancouver, Seattle, Portland, and other coast communities. Another would take southern Alberta gas into Spokane and thence to the same Pacific coast cities. The economics of both plans are dependent upon tapping the U.S. market in addition to the relatively small Canadian Pacific market.

A third gas export plan would take Alberta gas eastward to Saskatchewan and Manitoba communities, and then southward from Winnipeg into the mid-west United States. A fourth proposal, involving a great 2,300 mile pipeline system, would go east to Saskatchewan and Manitoba, north of the Great Lakes and thence into Canada's major market in Ontario and Quebec.

Initially, gas from Alberta can be allowed to go only one direction, east

or west, but prospects are good for general approval of export both ways as known reserves expand. Whether gas pipelines will be built first to the Pacific or eastward remains to be determined by the appropriate government authorities. The important fact is that Alberta gas, which has long supplied communities and industries in that Province, is soon to play a role in North America's economy rivalling that of western Canada's oil.

Unitization

While market growth is dependent upon continued discovery and development of reserves in western Canada, it is also dependent in considerable degree upon the recognition in both Canada and the United States that North American oil and gas resources should be unitized if the two nations are to derive the maximum benefit. U.S. and Canadian oil and gas should be free to move to the most economic market, regardless of international boundaries. Doubtful a year or two ago, this view of "unitization" now has broadening support in both countries and its acceptance is considered probable.

A Billion Dollars for Self Sufficiency

Canada's oil needs this year will probably exceed 380,000 barrels daily, almost double those of a decade ago, and the needs ten years hence will probably about double those of today. By boosting production from 19,000 to 170,000 barrels daily in four and a half years, we have made great strides towards achievement of Canadian self-sufficiency, but a tremendous task remains to be accomplished.

To make Canada self-sufficient, in balance, in petroleum, probably another one billion dollars will have to be invested in western exploration and development. A substantial part of that total will be provided from earnings of the oil industry in Canada, but hundreds of millions of dollars of new capital — from foreign sources, and from Canadian investors — are required if the great objective is to be achieved.

The Benefits

Alberta is a striking example of the economic revolution that can be achieved by a major oil development. Back in the '30's Alberta, then dependent almost entirely upon a single industry (agriculture), was deep in depression. Operating on a budget of only $16,000,000 yearly, and having trouble raising it, Alberta elected a Social Credit government with "funny money" ideas of monetary reform that were going to restore prosperity. The "funny money" failed to materialize, but "oil money" did the trick.

In Canada the bulk of mineral rights are vested in the Crown. That is, they are owned by the several provincial governments. In Alberta about 90% of mineral rights are government-owned, and are leased out to the oil industry under a formula designed to give the Province's 900,000 citizens a maximum of cash with a minimum of risk. That formula, obviously attractive to riskers of capital, ranks among the Social Creditors' major achievements. The formula works.

In the 4½ years since Leduc's discovery, the Alberta treasury has collected over $100,000,000 from the oil industry in fees, rentals, royalties, and cash bonuses paid for leases. The return in the latest fiscal year was almost $50,000,000. Over the next decade it is highly probable that the Treasury will collect at least another $500,000,000 from these sources.

Oil money has already enabled Alberta to whittle its provincial debt

down to about $100,000,000, and the balance will be paid off over the next ten years as fast as it is legally possible to do so. Alberta will likely become the first Province or State in North America free of capital debt. Meanwhile Alberta has tucked over $70,000,000 into savings accounts, is spreading the fruits of oil around by cash grants to the Province's cities, towns and rural municipalities, and by making loans at 1% interest to municipalities for self-liquidating capital projects. Western Canada's largest highway modernization program is underway in Alberta, and in other ways also that Province is forging ahead of its neighbors because of the boost provided by oil.

Other Provinces

Saskatchewan, Manitoba, and British Columbia are beginning to reap the benefits of exploration fees and rentals paid on government mineral rights by the oil industry and, like Alberta, share the benefits of increasing spendings on exploration and development, and increasing employment of local citizens by the expanding oil industry. Unlike that of Alberta, however, their treasuries haven't yet reached the "big money" income that will come if major discoveries are made.

The petroleum consumers of all three Prairie Provinces are drawing a major, direct benefit from the oil strikes. Their bill for gasoline and other products has now been lowered by at least $50,000,000 yearly, by the displacing of higher-cost imported oil. Gasoline and other products' prices are now an average of seven cents per gallon lower than they would be if the Prairies were not self-sufficient in oil.

Production of Alberta oil has already reduced by over $100,000,000 yearly Canada's need for U.S. dollars with which to purchase foreign oil for Canadian needs. That and the inflow of U.S. dollars for exploration and development are the largest single factors since World War II in relieving Canada's foreign exchange problem. Oil is becoming a great new source of Canadian tax revenue, thus reducing the burden on other taxpayers.

Strategic Importance

The present Iranian oil situation has focussed world attention on a fact vital to the welfare of the democratic world. The American continents and our friends in Western Europe consume over 80% of the world's present oil production of around 12,000,000 barrels daily. We and our friends among world nations are steadily increasing our peacetime needs for petroleum. In event of war with the forces of Communist Russia we would require a minimum of 2,000,000 barrels of oil daily to fuel the democratic armed forces alone. Unfortunately, about one-half the world's proved oil reserves are located in the Middle East, next door to Russia. In event of war we cannot count on the Middle East as a supply source for Europe and the Americas, for Joe Stalin's forces could probably neutralize the region by bombing of fields and pipelines, even if the Communists didn't physically seize the Middle East nations. That would mean the loss to us of reserves which, until the recent Iranian crisis cut off a 700,000 barrels daily flow, had been providing over 2,000,000 barrels daily or one-sixth of world production.

To prevent civilian rationing of petroleum far more severe than in World War II, and to ensure to the best of our ability adequate supplies of oil for our armed forces in event of another major war, the "potential oil resources" of the Americas must be

turned into "developed production potential" as fast as humanly possible.

Outlook for the Future

In the current world oil production picture, western Canada output ranks small. In the picture for the future it ranks large. The discoveries of recent years leave no doubt but that western Canada oil, in addition to its mounting benefits to the nation, will be an important factor in the world oil economy, and a powerful weapon in the defence of our democratic ideals against the evil forces lurking behind the Iron Curtain.

WET WATER

A delightful and, we are sure, a totally unexpected exchange occurred in the correspondence columns of *The Accountant* in its issues of July 28 and August 11, 1951. We reproduce it in its entirety.

King's Norton, Birmingham

Sir: I notice that the adjective "historical" is much used these days in connection with cost.

To make our meaning clear it is necessary to talk of capital cost, high cost, replacement cost, etc., just as we need, from time to time, to describe water as hot, cold or salt, but it is never necessary to use the expression "wet water", and I suggest that it is equally silly to talk of historical cost, for cost as such is necessarily of the past, just as water is necessarily wet.

H. A. BRISCOE

And in the August 11 issue appears the following letter:

London, EC4

Sir: I would not normally venture to take part in a discussion on "cost", for it is a subject that can be full of pitfalls for the unwary.

May I, however, add my mite to the knowledge for which all good accountants thirst, by assuring Mr. H. A. Briscoe (issue July 28th) that the expression "wet water" is a fairly common phrase, especially in circles connected with fire-fighting? It is used to indicate water to which a chemical agent has been added so that it wets more thoroughly. A duck floats only with difficulty in wet water.

May I suggest that perhaps "historical cost" may have an accepted meaning amongst those accountants who prefer to use the phrase?

J. R. HARKER, F.C.A.
Secretary, Fire Protection Association

Editor's Note: We are sure that Mr. Briscoe never dreamed that he would run up against an F.C.A. as secretary of the Fire Protection Association!

The Western Canada Petroleum Producer

By R. C. Brown
Chairman of the Board,
Western Canada Petroleum Association

How to go about the business of finding oil and bringing it to the surface

I USE the title "The Petroleum Producer" in its wider sense, meaning the finder, the developer, and the producer. The producer is the supplier of the raw material upon which all other branches of the industry are entirely dependent. There must be an adequate and dependable supply of this raw material in the form of crude oil and natural gas before the pipeline transportation systems, the refineries and other processing plants, and the great network of facilities to distribute the products to the consumer have any justification for existence. The accessibility of the locations where these raw products are found, the type and quality of the products, and the cost of finding and producing, are some of the factors that determine the type and kind of requirements for the other facilities to utilize such products — and more important, the net cost of the finished product to the consumer — but peculiarly enough they do not always determine the price the producer gets for his product.

Competitor in World Market

Essentially, the producer is a competitor in a world market. The great volume of consumption of finished petroleum products is in the concentrated centres where there are large numbers of industrial plants, mechanized equipment, automobiles, and people. The producer of crude oil or natural gas must, in principle, be able to deliver his raw products to those volume-consuming centres at a price competitive with that at which such areas could obtain their requirements from other sources. Thus, the return to the producer varies during different periods and often as a result of conditions over which he has no direct control.

As an example, up until only a few months ago oil was not produced in western Canada in sufficient volume to justify facilities for transporting it beyond the western Provinces. The result was that the producer faced a market limited to the consumption of petroleum within the immediate area. Price at the wellhead was determined by the simple formula of starting with the "laid-down-at-the-refinery" price of crude oil from import sources, subtracting the cost of transporting a local barrel of oil by expensive rail or truck

An address to the 49th annual meeting of the C.I.C.A., Banff, Sept. 5, 1951

shipment from the local field, and the result was the wellhead price paid to the producer. You will see, therefore, that his individual actual costs and hazards of finding and producing had little to do directly with the wellhead price he received and that actually he was a competitor in the world market.

Consider briefly the effect of expanding our local market for crude oil. First, the producer found and developed a sufficient reserve of crude oil to justify the necessary investment in pipeline facilities to reach economically a larger and necessarily more distant market. Underground pipelines are the most efficient and economical method of shipping crude oil and the combined facilities of the inter-provincial pipeline and lake tankers now permit the movement of western Canadian crude oil to Ontario refineries, but the price adjustment was inevitable. Starting with the "delivered-at-Ontario-refinery" price of a barrel of imported crude oil, deduct the current transportation cost of a barrel of western Canadian crude oil, and we have the current wellhead price being received by the producers in Alberta. Generally speaking, the effect of increasing our outlet for western Canadian crude oil, by getting into the larger and more distant markets, meant a reduction of about 15% in the wellhead price previously received by the local producer. The same factors will eventually control when natural gas is exported, as it is inevitable that this natural gas must compete at the point of consumption with the fuel it displaces.

The Sedimentary Basin

Now, let us consider the producer of oil or gas. The first step, of course, is to find some oil or gas to produce. How does one go about that business? Well, let us start broadly at first. Substantial parts of this North American Continent are underlaid with sedimentary deposits resulting from the time such areas were covered by the great seas of several million years ago. In western Canada, to be more specific, let me outline a general area. As one point, we can start on the international boundary line in Manitoba at a point approximately 100 miles east of the southwest corner of that Province; then project a line northwesterly at about a 45° angle to the Arctic Ocean. Again, start at a point on the international boundary line in western Alberta, just east of the crest of the mountains, and project that line north and northwesterly following the contour of the mountain range until this line also extends to the Arctic Ocean. Thus, you have a great pie-shaped wedge covering the southwest corner of Manitoba, about 2/3 of Saskatchewan, most of Alberta, and the northeast corner of British Columbia, plus the area in the Northwest Territories that is the generally accepted sedimentary basin of western Canada.

Oil and gas are contained mostly in the sedimentary sands and limestones having sufficient porosity to permit their accumulations in such formations, where such formations were laid down in a manner such as to provide a trap so that the oil and gas could not disperse through migration or have not been exhausted through erosion and subsequent exposure of the formation in which the oil and gas were accumulated. The searcher for petroleum must first find those conditions that appear favourable for such accumulation. Basically, we here have two distinctly different approaches. In limited parts of the great area I outlined, and principally directly in front of the mountain ranges, the surface of the ground can give some indication of the great disturbances that resulted in

buckling and folding of the outer crust of the earth. These surface manifestations can sometimes be accurately measured and mapped, and it can be determined with some degree of accuracy where there is closure of the structure sufficient to provide a trap for the oil and gas, if any was ever present there. This form of exploration is generally referred to as "surface geology" — but it is being supplemented to a growing extent with seismograph and other tools on which we must rely almost entirely for our efforts in the plains areas.

Scientific Procedures

In the areas away from the disturbed or foothills belt, these surface manifestations are not present and other means of exploration must be used to locate those subsurface structures or anomalies that appear to be favourable for the accumulation of oil or gas. A number of scientific tools or procedures are used for this purpose, such as the core drill, the seismograph, the gravity meter, and the magnetometer. Generally speaking, however, each of these tools attempts to do the same thing: that is, to reveal a subsurface high where there is closure and which condition is not present at the surface.

All of these efforts to find a spot which could be favourable for the accumulation of oil or gas are still just preliminaries. No scientific tools have yet been developed to tell us whether one of these structures or anomalies actually contains oil or gas. The only way to find the answer is to drill a well. As to both surface and subsurface prospects, there are many unpredictable conditions that can and do provide disappointments. The limits of accuracy in evaluating the results of seismic and other such efforts are so wide that even when a well is drilled on one of these scientifically selected prospects, the odds are greatly against a discovery being made. This is evidenced here in western Canada by the fact that on an average, only about one in twenty exploratory wells drilled results in a commercial discovery.

Mr. R. C. Brown spent his boyhood in the heart of the Oklahoma oil industry and for many years was associated with the Continental Oil Company of Delaware. In 1948 he came to Calgary as vice-president and managing director of Hudson's Bay Oil and Gas Company. He is presently chairman of the Board of the Western Canada Petroleum Association.

This general search for drilling prospects and the drilling of exploratory wells represents the exploration phase of the producer's business. This phase of operation must be financed almost entirely by risk capital and capital generated out of the profits of the industry itself. Large scale exploration effort and exploration projects into the more remote areas are jobs for the major companies who can afford to invest in prospects on which, even if successful, any realization may be delayed for a number of years. One discovery must pay for many expensive and fruitless efforts.

Cost of Mineral Rights

I have not commented on the procedure of acquiring mineral rights or the expense involved in maintaining such rights, even during the period required to conduct a general exploratory survey, nor the ranges of the costs of such surveys as they are so variable that even a brief review would require separate treatment. But this general fact may startle you. Out of the total of between $150 and $200 million that will be spent in exploration

and development in western Canada during 1951, approximately half that sum will be spent in acquisition and maintaining of the mineral rights and in technical exploration surveys, exclusive of any drilling of wells.

Let me give an example, and this happens to be taken from the experience of my own company. The Bailey-Olds well, about 50 miles north of Calgary, is a farm-out from my company. In geophysical and gravity metre work and rentals paid, over $700,000 was invested in the general area before the exploratory well was started, and substantially over $300,000 has been spent on that well. It looks at present as though a discovery may have been made, but more wells must be drilled before it is determined that oil or gas is there in any commercial quantities. Many similar projects, some of more and some of lesser costs, result in final disappointment.

Perhaps the best way to express the formula or principle followed by a major company in searching for oil is that they must acquire lots of land in regions favourable for oil or gas accumulation, gather the best trained technical talent they can afford, use the most efficient and progressive scientific tools available, and then have a very large amount of luck.

After the Discovery

So our would-be producer has now made a discovery. If it is not located too far beyond the limits of present facilities to get the production to market, he has the opportunity to share in whatever market exists, provided he proceeds to develop his discovery. He is not, however, the sole judge of the rate at which wells must be drilled to develop his holdings. The nature of the ownership of mineral rights is such that it is practically impossible for the discoverer to own all of the field or pool he has discovered unless it is a very small reservoir. His competitors will be most anxious to determine whether their nearby lands are productive. Almost like a forest fire, our discoverer finds he must drill numerous wells to meet offsets that are drilled on lands adjoining those he owns. Fortunately, other avenues of capital are available at this time, but the extreme capital requirements and length of time required for a pay-out are serious problems.

Now our producer would also like to know something about the value of his discovery. He cannot take an inventory of his reserves based on the information from one or two wells, but by using proper procedures he can in time predict with a great degree of accuracy the number of barrels of crude oil or the number of thousand cubic feet of gas that are in the reservoir he has discovered.

How Much Oil?

I mentioned earlier that crude oil and natural gas are found primarily in limestone and sand formations. To permit the accumulation of oil or gas, such limestone or sand formations, must be sufficiently porous to afford the storage of oil or gas. You have all seen the elementary example of a glass filled with dry sand and then a demonstration of how much water may be poured into that container without overflowing. That demonstrates the porosity condition of the subsurface reservoir we search for. As we drill additional wells after a discovery, we can carefully gather valuable information. By a system of cores and samples taken of the oil or gas bearing formation, we determine its average thickness under each parcel of land. By analysis of the cores, we determine the percentage of porosity and also what substances fill that porosity space. Gen-

erally speaking, where we find any accumulation of hydrocarbons, the gas is primarily at the top of the reservoir, with the oil immediately below the gas, and water underlying the oil.

Determining the total amount of oil or gas in a reservoir after it has been reasonably well delineated by drilling can be done with a great degree of accuracy. However, what Mr. Producer is interested in is how much of the oil and gas originally in place can be produced and recovered. Here technical problems get considerably more involved. The basic factors that control and determine the percentage of the original oil and gas in place that may be eventually recovered are the permeability of the formation, the viscosity of the oil, the original reservoir pressure, the density of the wells (that is, the well spacing pattern), the mechanism of the reservoir, and the method and rate of production. There are technical terms to define the separate and distinct types of mechanism or performance of underground reservoirs. I would be getting into deep water if I even attempted to discuss each type of reservoir performance, but I do want to say that in the earlier stages of development, it is not always possible to determine accurately what performance will be experienced. The producer must institute an initial production program, carefully designed to conserve all of the natural energy within the reservoir.

Preventing Waste

It is a sad commentary that many of our major oil fields of the world will never produce and recover more than 20% or 25% of the original oil in place. Wasteful competitive methods and lack of knowledge of reservoir mechanism have resulted in a dissipation of the original reservoir energy which, if properly utilized, would have served to recover a much larger percentage of the oil. If the percentage of recovery from a given reservoir could be increased from 25% to 50%, it is apparent that such effect would be even better than finding a new reservoir of equal size from which only 25% would be recovered.

The industry itself realized some of these conditions and started practising conservation many years ago. Voluntary conservation, however, was not adequate as some interests would not always cooperate. In order that the welfare of many would not be jeopardized through lack of cooperation on the part of a few, most oil producing areas are now subject to regulations dealing with all phases of conservation. The expected percentage of recovery from new fields today is considerably higher than from those discovered many years ago. This percentage of recovery still depends upon the nature of the reservoir, but the industry is spending great sums of money in research in an attempt to improve the knowledge of reservoir performance and the technique of production methods so as to recover still larger percentages of the oil originally in place.

Economically, this means that no longer can or would the producer open up wells and produce them at a rate injurious to the ultimate recovery. Hence, it is apparent that the time required for a pay-out of his initial investment is greatly extended.

The Depletion Problem

You should also remember that every barrel of oil or cubic foot of gas the producer brings to market is a reduction in his inventory and for which the only method of replacement is by the discovery of a new reservoir. Therefore, unless we collectively discover

new reserves at a greater rate than we withdraw from the old reservoirs, we are not only failing to provide for the ever-increasing demands but are actually producing ourselves out of business. It would be quite simple if each producer could take a fixed percentage of his income from each barrel of oil he produces and replace that barrel with that amount, but the uncertainties and hazards of the business make that impossible. Many reinvest practically their entire revenues without finding new reserves — but in the overall picture, the producing branch of the industry collectively has been able to find new reserves at a rate slightly in excess of the increasing requirements for current consumption. The depletion allowance to the producer has, without question, been a predominant reason why this favourable condition has been maintained. Without such allowance, the necessary capital to search for new reserves would not have been available unless the cost of all petroleum products had been maintained at a substantially higher level.

Conclusion

It may be inferred from some of my remarks that I am pessimistic about the future of the industry here. This is not the case. On the contrary, I am extremely optimistic about the future production of oil and gas in western Canada, but I do maintain that I am realistic in that optimism.

There are tremendous areas still unexplored, and many more important discoveries will be made in the areas where some exploration has been conducted. The less favourable features of the prospects here are: (1) so far, the average thickness of our pay sands or sections is less than in some other areas, resulting in a lesser recovery per acre; (2) there is a more limited number of potential pay formations in the stratigraphic section here than is found in some other places; and (3) climatic and transportation conditions serve to increase the costs of exploration and development. That the industry, with full knowledge of these conditions, still believes enthusiastically in the prospects of the area is evidenced by the fact that an estimated $200 million will be spent in exploration and development in western Canada during the year 1951.

The petroleum industry is relatively in its infancy here. Happily, there has been a growing participation in this effort on the part of the Canadian investor, but it would be healthy for the industry if a much broader and more general participation could be encouraged. There are attractive opportunities for both investment and speculation capital. One axiom which may safely be relied upon is that character, integrity, and practical experience are factors the investor should consider, perhaps to a greater extent than in any other field.

Some Notes on Oil Production Accounting

By Arthur Maw, M.C., C.A.

A leading oil accountant describes some of the problems and offers some suggestions

THE oil industry may be very broadly broken down into the following major subdivisions:

1. Exploration
2. Development
3. Production
4. Transportation
5. Refining
6. Marketing.

I place transportation between production and refining because it is there that it assumes its greatest importance in the industry but it is, of course, also a considerable factor between refining and marketing.

A Risky Business

The oil industry is traditionally a risky business and it is inevitable that the risks inherent in it should exert an influence on the management of companies engaged therein which, in turn, is reflected in the operations, in the incidence of taxation, and in the accounting. Separate and distinct risks apply to almost all phases of the industry: in exploration large sums may be expended and few favourable indications encountered, and in drilling on the seismic anomalies a disappointing succession of dry holes may follow one upon the other. In development of proven areas technical difficulties may occur in drilling which will cause the abandonment of expensive wells, and dry holes may also be encountered. In refining, changing conditions may cause the cessation or curtailment of an expected source of crude oil and economic and competitive considerations may limit the market for the refined products or seriously affect the price. In marketing, there is the risk of the loss of a profitable source of refined products and important fluctuations in local or world economic conditions may continually give rise to the possibility of losses in the realization of inventories and in the collection of outstanding accounts. Finally, all phases are subject to political considerations and the impact of governmental control.

It is probably due to an attempt to minimize some of these risks that the oil industry in Canada, perhaps even more than in the United States, is dominated by fully integrated companies which themselves carry on all phases from exploration to marketing, there-

An address to the 49th annual meeting of the C.I.C.A., Banff, Sept. 5, 1951

by to a large extent overcoming the risks which are peculiarly applicable to companies engaged in only one of the branches of the industry.

Operations Closely Integrated

Following the obtaining of production, the subsequent steps whereby the crude oil at the well-head is delivered as a finished product to the tank of the family car or the bunkers of a battleship are quite separate and the operations and the accounting for them are clearly defined whether they are carried on by one company or by independent transportation, refining, and marketing companies. However, up to and including production, through the steps of exploration and development, the operations are closely knit, so much so that, as often happens, when the costs of development and the proceeds of production are shared in unequal proportions by several independent parties, they must be recorded by one accounting authority.

To a degree that is unusual in any other industry, there is a very close association, cooperation, and fusion of interests between competitors for oil production who are financially independent of each other and it is also a singularly happy circumstance that more often than not the success of one's nearest competitor is a source of unmixed satisfaction to oneself.

Recording of Fixed Assets

Before pursuing further the accounting problems which arise through the close association of independent parties in one exploration or development venture, it would perhaps be as well to review briefly the recording of fixed assets of an oil producing company in its balance sheet. These consist usually of the following:

Lands, consisting mainly of surface rights surrounding the oil wells, tank farms, etc.,
Mineral rights, leases, reservations, options, agreements, etc.,
Intangible drilling costs (usually including the casing),
Production equipment, including tubing, casing head equipment, pumps, separators, tanks, etc.,
Drilling equipment,
Automotive equipment,
Office equipment,
Incomplete construction.

Of these, drilling equipment is not necessarily required as an investment as in very many instances the actual drilling of the wells is carried out by independent contractors rather than by the owners.

Unamortized Exploration Expenditures Costs

Closely allied to the fixed assets, but more usually classified as deferred charges, are the unamortized exploration expenditures. The accounting treatment of these expenditures is dependent entirely upon the decision of the management. Exploration costs may represent very large disbursements of capital funds and may include expenditures in widely scattered areas. In Alberta exploration is usually carried out on reservations acquired either from the Crown or from other owners of freehold mineral rights, such as the C.P.R. The cost of these reservations is small, amounting to only $1.00 per acre over a period of three years, and is even less if the reservation is abandoned earlier.

In major exploration projects the results of expenditures in any one area can seldom be determined or evaluated within one accounting period and for that reason the entire costs of exploring an area should first be charged to a deferred charges ac-

count. Ultimately, however, a geological and geophysical program will result either in the abandonment of all efforts to find oil in the area or in the drilling of test wells from which production is sought. Geological and geophysical reports are never conclusive, the only sure test to determine whether there is oil in the ground or not is to drill a well deep enough to test all possible geological formations or until commercial production is reached. Sufficient information, however, can be obtained from the exploration of a large area to arrive at the decision to abandon certain acreage, to obtain other acreage by acquiring leases of the petroleum and natural gas rights, and to maintain these leases by the payment of periodical rentals.

The question then arises as to how the exploration costs should be recorded at the time when a decision is made to abandon certain acreage and to retain other acreage. There is a choice of several different methods, each of which have their merits and disadvantages, and it must be remembered that although total exploration costs may be charged for income tax purposes in the year in which they are incurred against the revenue for that year, to the extent to which they do not exceed the revenue (with the balance carried forward to future years), they need not be so charged in the books in order to claim the deduction against taxable income.

Proper Accounting Method

It is an extremely difficult matter to reach a decision as to what is the most desirable or proper method of recording exploration costs when some part of the expenditures making up those costs have resulted in the finding of a commercially productive oil field while other parts have resulted in a decision to abandon all further exploration in the areas concerned. At the time when Imperial Oil discovered the Leduc oil field in 1947, considerable publicity was given to the fact that that company had spent something over $20,000,000 in Western Canada over a period of many years without a major exploration success. However, after only a few more wells had been drilled in succession to the discovery well, all indications were that, after lifting costs at the then going field prices for crude oil and taking into account probable fluctuations in world prices to which they are closely related, the Leduc oil field would ultimately produce net revenue far in excess of the total exploration expenditures made by its discoverer since it first started to seek oil in the west. Hence, at one extreme it can be argued that it would be proper to capitalize the acreage representing the Leduc oil field at the total exploration costs incurred by Imperial Oil to that date in Alberta, Saskatchewan and the Northwest Territories.

If exploration expenditures had been charged to expense annually such an accounting procedure would involve the re-instatement by way of a transfer to surplus, of large sums previously written off, and would result in a balance sheet, at the close of the fiscal year in which the discovery was made, which would show an enormous im-

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provement over the balance sheet for the previous year but which, nonetheless, would be factual and which could not very well be subjected to the criticism that it involved inconsistent accounting procedures because such procedures had not previously been appropriate.

Accounts by Hindsight

It may be suggested that the application of hindsight to reinstate as assets expenditures which had been written off is never justified. If that view prevails it is, of course, an argument in favour of deferring all exploration expenditures until the areas involved are proven either worthless or productive. But where is the limitation on the extent of areas to be placed?

At the other extreme the annual exploration expenditures could still be charged against operations, leaving no asset in the balance sheet to record specifically the Leduc oil rights and proven reserves. If the policy of the company hitherto had been to write off all exploration expenses annually, whether productive or not, this would appear to be the closest expression of a consistent policy. Yet it would result in the presentation to the shareholders of a balance sheet which would otherwise vary only by the amount of the annual trading and other normal transactions from the previous year's balance sheet. It would give no indication of the improvement in the fixed assets position resulting from the proving of large reserves of oil. Between these two extremes many accounting procedures can be followed, all of which can be supported by plausible, if not conclusive, argument.

It is usual when a company is engaged in oil exploration covering separate areas for detailed records to be maintained which will segregate the direct costs of exploration between those areas. If it is intended that these records should be used not only for information purposes but as the basis of entries in the main books of account, the direct costs should be increased by suitable overhead charges representing that portion of the management and administrative expenses which could be deemed to apply to exploration as a whole and which could thereafter be suitably prorated over the areas involved.

Financial Strength a Consideration

The financial strength and circumstances of individual companies tend to exert a great influence on the accounting for exploration costs. If a company is sufficiently strong financially that it can afford to write off exploration costs annually whether they have resulted in the finding of further oil reserves or not, without too serious an impairment of its surplus position, there is a temptation to do so because of the simplification in accounting. On the other hand, if a young company without large resources has spent a sizeable proportion of its capital in exploration and at the date of its fiscal year-end is not in a position to evaluate the results of that exploration, there is a temptation to carry forward those exploration charges as an asset rather than present to the shareholders a balance sheet recording a large deficit on operations.

Acquisition of Leases and Rights

Small oil companies which at their inception are not financed with a sufficiently large capital to engage in an extensive exploration program may enter the oil industry at a later stage. They start in business by acquiring either semi-proven or proven leases or by acquiring reservation rights which they intend to explore. They find a

partner to share the expense and to whom, in turn, they will be prepared to transfer some part of the oil rights in the event that the acreage prove worthy of further exploration and development. They may also, rather than put all their eggs in one basket, contribute to the drilling of several wells and so divide the risk.

When a small company has acquired from the promotors or vendors, say, half a dozen separate leases or other valuable agreements, and has then proceeded to issue shares to the public for the purpose of developing them, such assets are usually recorded on the balance sheet in one total with a notation showing the extent to which they were acquired by the issue of stock and the valuation placed upon that stock. It may be that the minutes recorded separate valuations for each parcel and that later in the course of exploring certain parcels were abandoned. In that case it would, of course, be possible to write off that portion of the asset account which is represented by the acreage abandoned, by way of a charge to capital deficit. That, however, is not usually done as the thought is that when, say, six properties are acquired, if even one turns out to be a success, it will probably prove to be worth at least the total amount applied on the balance sheet to all of the properties jointly. In other words, if five are failures then the cost of six becomes the cost of one.

Cost of Acquisition

After the acquisition of properties from the vendors, all subsequent purchases are, of course, recorded at cost and in this connection some rather difficult problems sometimes arise in determining what is the cost when the acquisition of a lease may be combined in one agreement with an undertaking to carry out either further exploration or the drilling of a well. For example, let us assume that Company *A* owns the oil and gas rights in a section of land in a very promising though unproven area but does not wish itself to incur the costs of drilling a well. It offers to Company *B* an undivided half interest or perhaps a half interest specifically determined by legal subdivisions (the smallest acreage on which one well may be drilled) in return for the drilling and equipping of a well which we will assume costs $50,000. It is important that the terms of such an agreement be very clearly set out because the drilling of the well for, say, $35,000 produces the right to amortize for income tax purposes those drilling costs at whatever rate the owner may decide, (in effect, amortization may be charged at the rate of 100% against the income for the year) and the production equipment costing, say, $15,000, may be depreciated under Classes 6 and 10 of the Income Tax Regulations. There does not yet appear to be a ruling by the Taxation Division, in the event of the matter not being covered in the agreement, to determine to whom and in what proportions the allowance for amortization of the intangible drilling costs will be made and it is, of course, also very important that the ownership of the production equipment should be clearly established.

Recording Transaction

However, the allocation of the $50,000 presents further problems both in the books of the company expending the money and in the books of the company providing the acreage. If Company *B*, by spending $50,000, has acquired a half interest in the first well and a half interest in the remaining acreage, the simplest way for it to record its disbursement would be to charge one half of the actual intangible

drilling costs to wells account, one half of the cost of production equipment to production equipment account and the balance to leases. If a corresponding accounting treatment were followed by Company *A*, it should debit wells account with one half of the drilling costs, debit production equipment with one half of the cost thereof and credit leases with these amounts.

This recording of the transaction is based on the assumption that the half-interest in the acreage is equal in value to the half-interest in the ownership of the well and equipment. However, for various reasons, either company may wish to allot other values to the assets sold and acquired. Company *A* would have to decide whether the credit to leases account was a reasonable amount, whether it constituted a reduction in the cost of leases or whether it should, in turn, be transferred to capital profits, leaving the investment in leases unchanged. This decision would, of course, be affected by the policy previously employed and by whether or not its leases were carried in the books at individual costs per acre.

Now it might well be that the acreage in which it had sold a half-interest had been acquired through exploration endeavours or through other deals from which it would not be easy to determine the actual cost. Company *B* might wish to record the acreage acquired at a nominal value of, say, $1.00, and to record its half-interest in the well at the total of the drilling costs, particularly if, in the absence of a specific agreement, it proposed to claim amortization for tax purposes of all of its expenditures on the well.

Consequences

The accounting treatment carried out both by Company *A* and by Company *B* might have far-reaching results from a taxation viewpoint as it is, I believe, still the principle that oil companies, primarily engaged in production, which make occasional non-recurring profits through the sale of leases are entitled to have these profits allowed by the Taxation Division as non-taxable. Unfortunately, it is not possible at the present time to state definitely under what circumstances those and similar profits will be treated as non-taxable. However, there are now pending appeals by some companies which have, in their opinion, been unfairly taxed on such profits and it is to be hoped that when these are heard the situation will be clarified to such an extent that appropriate provisions for taxes will be able to be made in the books of those companies which have concluded such transactions.

It is apparent that if the incidence of taxation were entirely dependent upon the accounting treatment employed by companies undertaking such deals, it could be minimized by book entries which would not perhaps record the most appropriate segregation as between leases, well development costs, and tangible assets, but I think that any temptation to show in the books the segregation which it is hoped to establish for taxation purposes, should be resisted when it is at variance with the painting of as true a picture as it is possible to show to the shareholders.

"Dry Hole" Money and "Bottom Hole" Contributions

It might be appropriate at this point to refer to the accounting treatment of "dry hole money" or "bottom hole contributions". The difference between them is that "bottom hole contributions" are unconditional whereas "dry hole contributions" are payable only in the event that commercial produc-

tion is not obtained. They represent the payment by an oil company to one of its neighbours which is preparing to drill a well in unproven acreage. Nothing is either purchased or sold except the geological information which the well will produce but the payment of such a contribution is, of course, justified by the saving which may be effected by the contributing company in not having to drill on its own lands should its neighbour be unsuccessful. The company making the payment charges it either directly or through an appropriate subsidiary account to exploration expenses and the company receiving the payment should credit it to well costs.

If the well is a dry hole the net cost is, of course, charged under "dry hole expense" to the year's operations but if the well is productive its cost, being the net amount after crediting bottom hole contributions, will be amortized in the books at the rate which is determined by applying the annual production in barrels as against the estimated ultimate production as calculated by the petroleum engineers to the drilling costs. These amortization rates are usually recalculated every year or at least every two years when information as to the ultimate production to be expected becomes more accurate through knowledge of the performance of the well and through the performance of neighboring wells. As will be referred to later, this amortization charge must not be confused with the allowance for amortization of well costs for income tax purposes. The incidence of taxation on the receipt of such contributions is not easily determinable and the question as to whether the receipt constitutes a capital profit or a reduction in chargeable expenses may often be affected by the accounting treatment afforded it. In suggesting that the contribution should be credited to well costs, I am following what I believe to be the most appropriate accounting, regardless of taxation considerations, particularly because the drilling of the well may only be decided upon as a direct result of the contributions promised.

Joint Ventures

Many agreements for the drilling of a well by one company on acreage owned jointly with another company or companies provide for the well costs, and sometimes the production equipment, to be recovered from the initial production, after payment of gross royalties and lifting costs, and thereafter the proceeds of the remaining production are shared in specified proportions. Under these circumstances the asset accounts recording well costs are not usually affected and the revenue is taken up as such as it becomes available to the recipients according to the terms of the agreement. When a company sells an interest in its acreage for an unknown consideration consisting of deferred revenue from a well or wells drilled at no expense to itself, the revenue becoming available after drilling and equipment costs have been recovered, the sales realization of the acreage cannot logically be recorded by what is actually received therefor. Although all of the oil rights may have been disposed of, the revenue will still, in effect, be a royalty and even though the properties from which the revenue is derived were capital assets all of the realizations therefrom will be treated as taxable income. In the books the properties should be left at their original book value and the reduction in value resulting from the disposal of a part or all of the oil rights will have to be taken care of out of income by the creation of a reserve for depletion cal-

culated to reduce the net book value of the properties to *nil* when production ceases.

In some instances oil rights are sold for a specific number of barrels or a specified dollar amount payable out of production. In those cases the value of the asset may, after the related adjustment, be transferred in the books to a receivable, the ultimate difference, if any, being regarded as capital loss or gain and no provision for depletion need be made. If any difference eventuates between the amount set up and the amount received, it should be absorbed in the year or years in which it occurs. The accounting problems arising from carried interest joint operations may become very difficult and are rather beyond the scope of this paper.

Accounting for Production Expenses

When wells are jointly owned, or when the net production from wells is divisible among several parties or among net royalty holders, it is important that the accounting of production expenses should be clearly defined by agreement. Sometimes the operating company undertakes to charge fixed monthly amounts for field supervision and for administration and accounting. When this is done the matter is a simple one but in the absence of such an agreement the operating company, which probably operates many other wells and engages in exploration and development as well as production, must maintain records from which a fair allocation of supervision and administration can be obtained so that the charges applicable to partnership wells may be fairly determined.

Even where the question of rendering an accounting to partners does not arise, it is desirable that subsidiary records should be maintained whereby the costs of operating individual wells or batteries can be accurately determined, as there will eventually come a time through the inevitable depletion of the oil field when it is important to know whether the production of a well is sufficient to defray its operating costs. This, of course, requires that the revenue derived from the crude oil and natural gas must be factually allocated to individual wells or batteries.

Accounts for Revenues from Natural Gas

In accounting for the revenue from natural gas, the necessity for very careful accounting arises when regulations are introduced to conserve the natural gas and ensure that the owners of it share fairly in the available market. This is the case in the Turner Valley field and will probably also be the case in other fields. In the early years the operation of the wells in the gas cap area of Turner Valley was conducted in a wasteful manner and enormous quantities of gas were burned in flares after the first petroleum content had been extracted by separators at the wells. As a result there is now insufficient gas remaining in the reservoir to lift the oil in the formation by natural means. The Natural Gas Conservation Board, an Alberta Provincial Government body, has enacted regulations for the conservation of the remaining gas and each well is allotted its production quota whether the gas produced is sold in the available market or returned to the formation after the gasoline content has been removed or whether it is, in fact, conserved in the formation and not produced at all. From the quotas the total revenue from the gas market is shared in appropriate proportions by wells; the allotment of revenue being calculated on the total of the gas sold, the gas returned to the formation and the

gas which could have been produced but which was actually left in the ground.

Depletion and Amortization

Turning now to the accounting for depletion of oil rights and amortization of well costs about which so much is heard when oil operators are discussing their taxation problems with their accountants, first of all it must be borne in mind that most oil operators, when talking about depletion, are thinking of the depletion allowances granted by the *Income Tax Act* and the Regulations and that they are not at all concerned with the provision for depletion which should be recorded in the books of the company. The two are in nowise related nor do they share any common basis of calculation, but because of the existence of depletion and amortization allowances for purposes of computing taxable income, some very strange results are forthcoming in the profit and loss accounts of oil producing companies. It is quite possible for an oil company to make an annual profit of an amount far in excess of its total capital and yet pay no income taxes and, conversely, it is possible for an oil company to show a loss and yet be subject to substantial income taxes. These conditions usually arise more from the application of allowances for amortization of well costs than from depletion allowances and may be illustrated by the following example:

Example

Let us assume that a company acquires its acreage by exploration rather than by purchase of proven leases. All of its exploration and drilling expenses will be available for taxation purposes as charges against its first income from production no matter how many years may elapse before the income is sufficient to absorb those costs. Let us assume also that it is fortunate in its development program and that the first wells drilled are all substantial producers. If the company, rather than following a policy of distributing some part of its earnings to the shareholders, decides to reinvest those earnings in further development, it will provide for itself very large charges against taxable income represented by the amortization of well costs and, if it is fortunate, in a very short space of time may be receiving income from wells in an amount far in excess of its original capital. However, during this period of reinvesting its cash income from production in additional wells, it will have been providing amortization and depletion charges in the books based on rates per barrel calculated by the ratio of the annual production to the estimated ultimate production, applied in the case of depletion to the book value of the leases or oil rights covering the productive area and, in the case of amortization, to the individual well costs.

If the oil rights were acquired through exploration costs largely absorbed in operating expenses, the annual depletion charges will be small. Where an oil well has an estimated life of from twenty to thirty years based on the most economical methods of production designed to ensure the recovery of the maximum amount of oil from the producing horizons, then, even after taking into account that that production may not be recovered equally over the years but must eventually decline in the later years, the charge for amortization of well costs will still only be some 4, 5, or 6% of the cost in the early years as against the 100% which could be claimed for taxation purposes. This condition will result in large profits on which no income taxes are payable.

Conversely, in the later years when revenue declines and lifting costs remain the same and amortization still represents an annual charge against the profits, an operating loss may result which, after writing back the amortization booked, may still leave a taxable income. In this connection it is desirable that an appropriate note be placed at the foot of the profit and loss account to explain the apparent irrelevance of the charge or lack of charge for income taxes.

Government Policy

It is not, of course, our function as accountants to debate the fiscal propriety of depletion allowances nor the basis of taxation of the oil industry as a whole but, until very recently, the so-called incentive legislation designed to encourage the maximum search for oil for defence purposes was apparently based on the primary concept that a company engaged in searching for oil, developing its properties, and producing oil should not be subject to taxation until it had first recovered its investment. This is indicated by the provisions of the Act which allow for the writing off of exploration costs and well costs against all available income so long as any of these costs remain unamortized. However, in recent years the proving of major oil fields by drilling has made it possible for a company to enter the oil business without incurring the large expenditures necessitated by embarking on an exploration program. It may instead purchase proven acreage and the policy and enactments of the Alberta Provincial Government have tended to encourage this type of development.

Something over 90% of all of the mineral rights in the Province are vested in the Crown and a company or individual may acquire the right to explore Crown acreage by obtaining up to two reservations of not more than 100,000 acres each. If the results of exploration are sufficiently encouraging to justify the drilling of a test well and if the well becomes a discovery the company may then convert up to one half of the acreage held under reservation to leases, and the remaining half (checkerboarded according to a regulatory system) remains the property of the Crown. Periodically these remaining properties, commonly referred to as Crown reserves, are offered at auction where sealed bids are made by interested parties and in some instances over one and three-quarters million dollars has been paid for one quarter-section of proven acreage, from which the Province will receive in addition a royalty of not less than 12½% of all the oil produced from it.

Postponement of Depletion Allowance

When a company acquires such proven acreage, it can be seen that its investment per acre consists to a far greater degree of acquisition costs than of well development costs. Hence, its tax relief is derived more from depletion than from amortization allowances. The present allowance for depletion in the case of an operating company consists of one third of the net income from the well after providing for amortization of drilling costs and lifting and administrative costs and in the ordinary course of events it would be expected that this allowance, in the case of an average commercially productive well or group of wells, should be sufficient to provide a reserve for depletion of the acreage equal to its cost before its ultimate exhaustion. However, in practice, the obtaining of this depletion allowance is not as simple and straightforward as it would appear. Although

it is difficult to find authority for it in the Act or the Regulations, the officials charged with the interpretation and enforcement of the *Income Tax Act* have indicated that before arriving at the net earnings from production, on which the depletion allowance of 33-1/3% should be calculated, there must be charged thereagainst any unamortized exploration or development expenses regardless of the areas in which they were incurred. This decision seems to have the effect of providing for harsh discrimination and in some instances could mean that a well could be drilled in respect of which no depletion allowance on its production would ever be received over its entire life.

Example

Let us compare the application of depletion allowances to two companies both of which have net income of, say, $300,000 from production. Each company derives its income from wells drilled on proven acreage which was acquired at considerable cost in, say, the Redwater field. Company *A* confines its activities to developing its Redwater acreage and, consequently, is allowed a charge of $100,000 against its income and pays tax on the remaining $200,000. Company *B* spends $300,000 on exploration in, say, the Peace River area and consequently receives no depletion allowance although its oil rights, identical with those of Company *A*, have been physically depleted to the same extent and if Company *B* continues for some years to expand and reinvest its earnings in further exploration and development, it may be that its Redwater wells will be completely depleted physically before ever it receives a depletion allowance for them. It must, of course, be remembered that for purposes of submitting the annual accounts to the shareholders, both companies will show the same charge for depletion; Company *A* will show a provision for income taxes on $200,000 and Company *B* will show no provision for income taxes.

Capital Profits

Although they do not perhaps come within the classification of accounting problems, there are some points governing the theoretical propriety of depletion allowances for taxation purposes to which we might give some thought. In the case of those companies which do not acquire their oil rights by direct purchase of proven acreage, but which instead have obtained their income entirely through the exploration and development of wildcat acreage, it could be claimed that from a cost viewpoint they have nothing to deplete for taxation purposes because their exploration expenses and well development costs have all been charged against the income from wells before the remaining income is subject to tax. However, this view does not take into account the element of capital profits which are still theoretically not subject to tax in this country. If a company, as a result of its exploration and by drilling a group of fairly widely separated wells, has been able to prove an oil field of substantial size and containing important reserves of oil, the value of that field would be out of all proportion to the direct localized costs of finding and proving it and if the company sold this field shortly after proving it, it would have realized a large tax-free capital profit. If, on the other hand, it decided to develop it itself, its capital profit would be spread over many years and would be tax-free only to the extent that the depletion allowances deducted from its annual income exceeded the book cost of the developed acreage.

It must be remembered that depletion and exploration are closely related. A provision for depletion is designed to retain funds to replace a wasting asset and exploration represents the expenditure of those funds. On the assumption that exploration will eventually provide new reserves at an average cost comparable to the cost of purchasing proven acreage, the decision of the Tax Department to allow no depletion of proven acreage until the costs of exploration have been absorbed is reasonable, but it should be clarified in the Act and Regulations.

Auditor's Certificate

In conclusion I should like to refer to the auditor's responsibility in certifying that the balance sheet discloses a true and correct view of the state of the company's affairs. It seems to me that there should be some means of disclosing on the balance sheet an indication as to the extent of the oil and gas reserves held. This can, of course, be adequately dealt with in the report of the president to the shareholders but it has such an important bearing on the value of the company's stock that the shareholders' equity shown on the balance sheet, affected as it is by the dollar value placed on the capital assets, assumes a position of relative unimportance.

Let us compare the balance sheets of two hypothetical companies, each of which has been capitalized with $3,000,000 of cash. Each has spent $2,500,000 on exploration in its first two years and has obtained no production. Early in the third year Company *A* finds a small productive well which produces $30,000 by the end of the year but between its discovery and the year-end the company drills around it four more wells, all dry holes, which prove that it has found only an isolated pocket and not an oil field. Company *B* during the year also drills four dry holes but in the later months of the year it drills an important producing well and follows it with further wells which indicate the existence of a large oil field containing valuable reserves. The income from these productive wells, coming as it does very late in the year, also amounts to only $30,000. The balance sheets and profit and loss accounts of these two companies will be practically identical or will vary only by the accounting treatment dictated by the policy in effect in the recording of exploration expenditures. Company *A* has spent almost all of its capital in a fruitless search for oil and is now in the position of having a treasury depleted to such an extent that it cannot finance another major exploration program. Company *B*, on the other hand, although it still has left only the same amount of cash as Company *A*, has proved its ownership of a major oil field and has still enough cash on hand to finance the drilling of a sufficient number of wells which will themselves, in turn, provide the necessary cash to complete the development of the entire field; yet both companies still show the same profit and loss accounts and balance sheets.

Inadequacy of Balance Sheet

In these days of rapidly rising prices we have all been confronted with the problems which arise from the disparity between the valuation of the capital assets recorded on the balance sheet at cost and the present day replacement values, and many excellent commentaries on the subject have been contributed by members of the Canadian Institute and of the American Institute. The problem in the case of an oil producing company is somewhat different. In all other industries, with

the possible exception of the mining industry, the cost of the fixed assets gives some indication of their value and the related depreciation reserves give some rough indication of when they were acquired so that, by applying a cost increase factor, the investor has the opportunity of calculating their present day replacement cost in a rough and ready manner which should, nevertheless, be reasonably correct. However, in the oil producing business the book values of the fixed assets, more often than not, provide no indication whatsoever of their potential worth or their present realization value. The reserves for amortization of development costs and for depletion can, at best, serve only as an indication that there has been sufficient production to create those reserves and even if the investor compared all of the annual financial statements of the company since its inception, although he would be informed as to the producing history of the company, he would still be unable to make a reasonable guess as to what its future earnings would be from the capital assets recorded on the balance sheet.

I recognize that there is little that the auditor can do about it. He can still certify that the state of affairs is as shown by the books of the company and though the information and explanations which he has received may indicate to him that one company has just about completed its useful life while another company with the same balance sheet is about to embark upon a period of prosperity and large profits, there is no way that he can say so. It seems to me that the matter is of sufficient importance that consideration might perhaps be given by the management of oil companies to including on their balance sheets the figures of estimated reserves of oil in barrels, prepared by petroleum engineers, and that the auditor in his report could refer to the reports which he had examined, supporting these figures. They would, of course, have to be in barrels only, as their dollar value would be dependent upon future market prices, future costs of production, and an appropriate discount rate calculated in accordance with the number of years during which it would be expected that the reserves could be produced and realized. Even so, they would help an investor to calculate the intrinsic values behind the stock exchange quotations.

La Tenue des Livres à la Machine a Additioner

Par Maurice Cloutier, C.A.

Comment mettre à la portée des "petits" clients les avantages de la mécanisation de la tenue des livres

IL EST reconnu que les "grands" bureaux de comptables agréés exercent une profonde influence sur l'économie générale du pays. Ils sont de ceux qui savent le mieux sonder l'âme des grandes entreprises. Depuis dix ans, toutefois, les "autres" bureaux jouent un rôle de plus en plus important dans le vaste champ de la petite entreprise. La dernière guerre, qui a allongé outre mesure le bras du fisc, a créé un milieu propice à leur montée vers le succès.

Pour maintenir leurs positions, il est tout naturel que les 'petits' bureaux fassent appel aux mêmes méthodes qui ont fait le renom des "grands" bureaux. De ces méthodes, il suffit de mentionner ici celle qui caractérise l'âge de la machine: rendement maximum par effort minimum. C'est ainsi que les "grands" bureaux ont été les principaux artisans de l'extraordinaire mécanisation des systèmes de comptabilité dans les grandes entreprises. Le problème qui se posera pour les 'petits' bureaux en est un de moyenne mesure. Evidemment, il ne peut être question de suggérer à la petite entreprise l'emploi de la moins complexe des machines à comptabilité. Non seulement son prix d'achat, mais encore son mode d'emploi, sont hors de sa portée.

Il existe cependant un moyen de 'mécaniser' entièrement la tenue des livres de la petite entreprise, et cela, à l'aide d'une simple machine à additionner, qui aura été au préalable munie d'un charriot d'une largeur de douze pouces.

Etude Préliminaire

Naturellement, avant de recourir à la tenue des livres à la machine à additionner, il sera nécessaire d'étudier les besoins et les conditions de chaque cas particulier, mais d'une façon générale il sera suffisant de s'en tenir aux sept principaux points qui suivent:

1. La petite entreprise n'aura pas les moyens de retenir les services permanents d'un teneur de livres.
2. La tenue des livres pourra sans inconvénient n'être faite qu'une seule fois par mois.
3. L'achat d'une machine à additionner, ou l'adaptation de celle en usage, permettra de faire la tenue des livres sur les lieux.
4. Le système de recettes et déboursés pourra être adopté facilement.
5. Les déboursés devront autant que possible être faits par chèques ou par traites.

6. Les déboursés faits à même les recettes devront avoir pièces à l'appui.
7. Les autres recettes devront être entièrement déposées à la banque.

Classement des Comptes

Les différents comptes de la petite entreprise devront d'abord être classés par ordre numérique, comme, par exemple, ceux qui apparaissent dans la liste suivante:

Ventes	1
Achats	2
Assurances	3
Assurance-Chômage	4
Chauffage	5
Commissions	6
Dépenses de Voyages	7
Publicité	8
Retraits	9
Salaires	10
Divers	11
Dons	12
Electricité	13
Réparations	14
Taxes	15
Taxes de Ventes	16
Transports	17
Téléphone	18
Impôts sur Salaires	19
Intérêts	20
Impressions	21
Loyer	22
Fournitures	23
Frais Légaux	24
	25
	26
Dépréciation	27
Banque	28
Caisse	29
Inventaire	30
Billets à Recevoir	31
Comptes à Recevoir	32
Placements	33
Frais Payés D'avance	34
Mobilier	35
Matériel Roulant	36
Immeubles	37
Terrains	38
Chèques en Circulation	39
Billets à Payer	40
Comptes à Payer	41
Emprunts de Banque	42
Hypothèques à Payer	43
Frais Courus à Payer	44
Capital	45
Surplus	46

Description des Feuilles

La tenue des livres se fera à l'aide de feuilles volantes qui seront insérées sur le charriot de la machine à additionner. Elles auront comme dimensions 12 x 17 pouces et elles seront contenues dans un relieur à poteaux. Elles sont divisées en quatre groupes, à savoir: a) feuilles du journal recettes-déboursés; b) feuilles du grand livre général; c) feuilles du journal de ventes; d) feuilles du livre de paye.

a) *Le Journal Recettes — Déboursés*

Le journal recettes-déboursés comprend trois sections, à savoir: a) section des dépots; b) section des chèques; c) section de caisse.

Chacune des trois sections possède quatre colonnes qui ont les titres suivants:

DATE	DEPOT NO	FO	MONT	DATE	CHEQUE NO	FO	MONT	DATE	CAISSE NO	FO	MONT

b) *Le Grand Livre Général*

Le grand livre général est formé de feuilles à neuf colonnes. Les titres des comptes, avec leur numéro respectif, sont inscrits dans les cadres situés au sommet des colonnes et à leur partie médiane.

Une première feuille servira à l'inscription des titres des comptes d'exploitation, soit les Nos 1 à 18 au recto et les Nos 19 à 27 au verso. Voici une illustration des comptes de 1 à 9.

Ventes	Achats	Ass. Inc.	Ass. Chom	Chauffage	Comm.	Dep. Voy.	Publicité	Rets
1	2	3	4	5	6	7	8	9

c) *Le Journal De Ventes*

Une seconde feuille servira à l'inscription des titres des comptes de bilan, soit les Nos 28 à 38 au recto pour l'actif et les Nos 39 à 46 au verso pour le passif.

Le journal de ventes est formé de feuilles à huit colonnes. Il servira au calcul des taxes de ventes, s'il y a lieu de l'établir, et les colonnes auront les titres suivants:

Taxes 5 PC	Ventes 5 PC	Taxes 2 PC	Ventes 2 PC	Ventes Non Taxables	Ventes Totales	Taxes 10 PC	Ventes 10 PC

d) *Le Livre de Paye*

Le livre de paye est formé des feuilles de chaque employé. Les colonnes des feuilles ont les titres suivants:

Signature	Salaire Brut	Ass. Chôm. Eur	Ass. Chôm. E	Impôt	Epargne	Cont. Syn.	Salaire Net

Collaboration des Clients

Le bon fonctionnement d'un système de comptabilité repose en grande partie sur l'intelligente collaboration du propriétaire de l'entreprise. D'un autre côté, il ne faut pas oublier qu'il s'agit ici de clients qui ne possèdent pas l'esprit comptable et qui sont incapables de l'acquérir du jour au lendemain.

Les quelques règles qu'ils devront observer seront donc très faciles. Elles s'énoncent ainsi:

1. Garder en caisse une somme constante pour faire la monnaie.
2. Déposer à la banque toutes autres sommes.
3. Indiquer sur les bordereaux de dépôts les sommes autres que les ventes.
4. Indiquer sur les chèques et les traites le genre de déboursé.
5. Faire un mémo des changements dans les salaires, retraits ou allocations de dépenses.
6. Classer ensemble toutes les factures payées au comptant.

Réglage de la Machine

La machine à additionner, qui sera en usage, ne présente aucun trait particulier, à l'exception de son charriot de douze pouces. Cependant, pour l'adapter à la tenue des livres, il est essentiel de lui apporter quelques réglages ou modifications, à savoir:

1. Le tabulateur doit être réglé, une fois pour toutes, de façon que les arrêts coincident avec les colonnes des quatre sortes de feuilles.
2. Un levier spécial doit être installé pour permettre l'inscription des quantièmes du mois, à l'aide des deux colonnes de chiffres de gauche.
3. La clef n/a (non add) doit servir à l'inscription simultanée des quantièmes du mois, des numéros de série et des numéros de folio.
4. Les clefs de mois peuvent être ajoutées, mais elles ne sont pas indispensables. Les mois peuvent être aussi bien écrits à la plume.
5. Le mécanisme pourra être actionné à l'électricité, si le client veut bien se permettre ce luxe!

Caractéristiques Générales

Avant d'entreprendre l'étude du système proprement dit, il convient d'expliquer certaines caractéristiques d'ordre général qui sembleront au premier abord en contradiction avec des principes de comptabilité que l'usage a depuis longtemps consacrés.

En premier lieu, il est à remarquer que les recettes ou les déboursés ne sont pas indiqués dans le journal général par les noms des clients ou des fournisseurs. Ainsi, par exemple, le nom du bénéficiaire d'un chèque ne sera pas inscrit, pour la bonne raison qu'une machine à additionner n'est pas une machine à écrire. D'un autre côté, il sera tout de même facile de repérer recettes et déboursés, au moyen du quantième du mois, du numéro de série et du numéro de folio. Dans le cas d'une vérification plus poussée, il sera toujours possible de consulter la pièce justificative elle-même, car il faut très souvent en venir à cette mesure, quel que soit le système de comptabilité.

Le second point qui n'est pas tout à fait orthodoxe est le classement préliminaire des pièces justificatives par ordre numérique des différents comptes. Ainsi, par exemple, les chèques des achats du mois seront groupés sous le numéro 2; les chèques des assurances, sous le numéro 3, et ainsi de suite, d'après l'ordre de classement des comptes déjà mentionné. C'est l'ordre chronologique habituel qui se trouve ainsi à être mis au rencart.

En dernier lieu, il faut noter que les différents comptes n'ont pas de feuille individuelle au grand livre général. Au contraire, tous les comptes d'exploitation apparaissent sur une même feuille. Cette disposition des comptes présente un autre avantage qui a sa valeur, celui de permettre la comparaison des comptes dans un seul coup d'oeil.

Fonctionnement du Système

Les principes fondamentaux qui régissent la tenue des livres en général ne sont pas changés par l'utilisation de la machine à additionner, bien qu'elle entraîne quelques variantes dans leur application. Ces dernières facilitent la bonne marche du système, qui comprend les cinq phases suivantes:

1. Classement des documents; 2. Ecritures au journal recettes-déboursés; 3. Report au grand livre général; 4. Ecritures au journal de ventes; 5. Ecritures au livre de paye.

Les Documents

Le classement des pièces justificatives du mois sous revue se fait par ordre numérique des comptes (Nos de folio), à l'aide d'une liste permanente qui aura été dressée à cette fin. Voici comment traiter les trois sortes de documents:

1. Duplicata de bordereaux de dépôts. — a) faire le pointage des dépôts au livret de banque; b) indiquer le No de folio des dépôts autres que des ventes.
2. Chèques et traites payés. — a) faire le pointage des chèques et des traites au livret de banque; b) indiquer le No

de folio des comptes autres que les achats.

3. Sorties de caisse. — Indiquer le No de folio de tous les comptes sans exception.

Journal Recettes-Déboursés

Au journal recettes-déboursés, les écritures se font par ordre de Nos de folio et en deux temps: le premier, pour enregistrer le quantième du mois, le No de série et le No de folio; le second, pour enregistrer le montant et le total.

Les écritures qui se rapportent aux dépôts de banque viennent en premier lieu; puis, celles qui se rapportent aux chèques et aux traites, et enfin, celles qui se rapportent aux sorties de caisse.

A la fin de l'exercice financier, une feuille du journal recettes-déboursés, dont les titres des colonnes — dépôt No, chèque No et caisse No — auront été remplacés par les titres — débit, crédit et profits et pertes — servira à l'inscription des écritures de régularisation et de clôture, encore d'après l'ordre des Nos de folio.

Grand Livre Général

Au grand livre général, l'inscription du bilan du début de l'exercice financier se fait par ordre de Nos de folio et en deux temps: le premier, pour les comptes de l'actif avec leur total, au recto de la feuille, et le second, pour les comptes du passif et du capital avec leur total, au verso de la feuille. Les deux totaux doivent évidemment balancer.

Le report au grand livre général se fait par ordre de Nos de folio et en trois temps, à savoir:

1. Les totaux des comptes à la section des dépôts au journal recettes-déboursés sont reportés à leur colonne respective du grand livre général, tandis que le grand total est enregistré dans la colonne de banque.
2. Les totaux des comptes à la section des chèques au journal recettes-déboursés sont reportés à leur colonne respective du grand livre général, tandis que le grand total est enregistré dans la colonne de banque.
3. Les totaux des comptes à la section de caisse au journal recettes-déboursés sont reportés à leur colonne respective du grand livre général, tandis que le grand total est enregistré dans la colonne des ventes. (Ces comptes ont été payés à même les recettes.)

Le solde de chaque compte du grand livre général, ainsi que la balance de vérification, se calculent au moyen de la clef n/p (non print). Cependant, si la machine n'est pas munie de cette dernière clef, les mêmes résultats s'obtiendront par l'impression des chiffres aux mêmes endroits dans chaque colonne.

Ainsi, par exemple, à la colonne de banque, le solde du début est additionné au total des dépôts et soustrait du total des chèques. Le nouveau solde doit correspondre à celui du livret de banque (sorte de conciliation de banque).

A la fin de l'exercice financier, le report des écritures de régularisation et de clôture se fera de la même façon que le report des autres écritures.

Journal des Ventes

Il sera nécessaire de tenir un journal des ventes dans le cas où les taxes de ventes devront être calculées à partir des factures de ventes.

A cette fin, les duplicata des factures de ventes du mois sous revue auront été classées au fur et à mesure d'après leur numéro de série.

Les montants des taxes seront additionnés dans la première colonne; les montants des ventes, dans la deuxième, et ainsi de suite.

Un résumé répartit les taxes dues aux gouvernements fédéral et provincial et les ventes entre celles qui sont taxables et celles qui ne le sont pas.

Livre de Paye

Chaque feuille de paye indique au début le calcul pour une première semaine du salaire brut, des déductions et du salaire net, que la machine aura accompli en une seule opération.

Pour les semaines suivantes du mois sous revue, l'employé signera son nom chaque fois qu'il recevra sa paye.

A la fin du mois, le montant de chaque colonne est répété autant de fois qu'il y a eu de signatures, pour être ensuite totalisé.

Le report des totaux de chaque feuille de paye se fait au grand livre général de la même manière que les sorties de caisse.

Note: La feuille de paye peut aussi être adaptée au calcul du salaire horaire.

Conclusion

Il est à souligner, en guise de conclusion, quelques-uns des avantages appréciables qu'offre la machine à additionner dans la tenue des livres.

1. *Clarté et précision*: les chiffres imprimés sont plus faciles à consulter et prêtent moins à confusion que ceux inscrits à la plume.
2. *Rapidité d'exécution*: l'enregistrement des montants et leur addition sont faits simultanément, ce qui évite leur répétition sur le ruban d'une machine à additionner ordinaire. Les possibilités d'erreur sont ainsi réduites à un minimum.
3. *Economie de papeterie*: les quatre sortes de feuilles sont contenues dans un seul relieur de manipulation commode. Il ne suffit que de quelques feuilles pour la tenue des livres d'une année entière.
4. *Travail de stagiaire*: dans une petite entreprise, la tenue des livres qui aura été ainsi rendue d'exécution facile ne demandera chaque mois que deux heures de travail environ à un stagiaire de peu d'expérience.

Recruitment of Accounting Personnel

By D. R. Lukin Johnston, C.A.

An exposition of a problem of deep concern to the profession, with some proposals towards its solution

IT is usual for the Executive of the C.I.C.A., in their selection of speakers on technical subjects before this annual assembly, to choose from the ranks of those who have achieved success or distinction in the field of the topic concerned. Under this custom you might well expect to see before you, reading a paper entitled "Recruitment of Accounting Personnel", a practising chartered accountant whose firm has not only a full quota of students but whose office is besieged by applicants, many of whom have to be turned away disappointed. This, I fear, is not so; and if I may adapt Mr. Micawber's famous remark to my case, I find myself and my firm in the second and less desirable of his two emotional states:

"Vacancies 20, applicants 21;
result happiness.
Vacancies 20, applicants 19;
result misery."

Thus, in presuming to submit my views on this subject to you, I am occupying a role almost as questionable as that of the physician who, having failed conspicuously to heal himself of a disease, nevertheless continues confidently to prescribe its cure to the public. However a physician in such case can claim without reserve a background of prolonged study and, to say the least, an abundance of interest in finding a cure. This must be my excuse for venturing to speak on a problem which is rapidly becoming acute.

The Problem Widespread

This problem is, of course, the widespread dearth of applicants to enter our profession. I speak primarily in terms of British Columbia, where my experience of this problem has lain; but I am informed by my partners in other Provinces, and by colleagues of other Institutes, that the problem is severe throughout Canada. Many firms are without an adequate complement of registered or articled students; and many other firms who have filled their quotas have done so without enjoying the benefits of selection from a larger number of applicants.

It is not possible to quote statistics of actual vacancies available, but I should be ready to estimate that in B.C. where our enrolment of students is at the present time approximately

An address to the 49th annual meeting of the C.I.C.A., Banff, Sept. 4, 1951

280, another 50 or 60 students could readily be absorbed by the profession; this being a shortage of about 20%. An unfavourable statistic that can be cited is that of the graduating class in Commerce at the University of British Columbia in May 1951. I am informed that of 90 graduates only 9 so far have entered the profession as students. These 9 represent less than half of those students of the graduating class of 1951 who took accounting options.

The Causes

I need not illustrate further this very serious situation which confronts us. The next step is to diagnose the causes. I submit these three principal causes of our present shortage of students:

1. the long period of training and the arduous studies required before a student can obtain the right to call himself a chartered accountant,
2. the relatively low rates of pay offered to students in their early years,
3. the prevailing ignorance among university and high school students and their vocational advisers of our profession and its possibilities.

1. Length of Training Period

To take these in order: I begin with the long period of time and the heavy studies which are required to obtain full membership in our profession. There is no need for me to discuss at length in this connection the hardships of attaining professional status. We all of us bear, inside or out, the honourable scars of our passage through studies and examinations. None of us would feel that our membership was worthwhile if it could be too lightly gained. And in view of the increasing complexities of the accounting, auditing, and taxation problems with which our profession is called upon to deal, it would be a hardy soul indeed who suggested a reduction in the period of training, experience, and study through which our present candidates must pass.

Nevertheless, we should examine our period of training and the manner in which the latter is administered, to make sure that this long time in a student's life is being employed to his best advantage and to that of the profession. In discussing the period of training, I do so for the sake of brevity in terms of the requirements of the British Columbia Institute. I believe our conditions are fairly representative of the majority of the Provinces. In British Columbia it takes the non-university man five years to obtain membership in the Institute, assuming that he passes all his examinations at the appropriate times. Those who choose to go to university first will take a total of seven years to obtain both their university degree and membership in the Institute. These periods all assume that the candidate has first obtained senior matriculation, without which he cannot, unless in exceptional circumstances, enter into articles as a student for the profession.

The period of five years is, of course, a very long time. It seems particularly hard to the man without a university degree, who has spent three or four years in some other occupation after leaving school, and finds at the age of 22 that he will be 27 before he can become a chartered accountant. However, I think that there are in these days very few members of any of our Institutes who feel that five years of practical training and theoretical study is too long a period for the making of a professionally trained public accountant.

A native of British Columbia, Mr. D. R. Lukin Johnston, C.A. was educated in Great Britain and qualified as a chartered accountant with the Institute of Accountants and Actuaries in Glasgow in 1937. From 1941 to 1945 he served as a lieutenant with the R.C.N.V.R. He joined the B.C. Institute in 1947 and is a junior partner in Price, Waterhouse & Company, Vancouver. He is chairman of his Institute's Committee on Education and Examinations.

Suggestion from Britain

It is often suggested that conditions would be more attractive to students if they could obtain leave of absence from their principals' offices for their theoretical studies, either on a part-time daily basis, or by periodical breaks in office routine allowing students a fortnight or a month for studies. The fact that this suggestion often emanates as a cry of pain from a student at the height of his pre-examination crisis, when he is apt to conceive himself as a martyr stretched upon the rack, whose pulleys are unmercifully tugged by his principal, with the Board of Examiners-in-Chief cast in the unsympathetic role of Torquemada and the Spanish Inquisition, should not be allowed to prejudice its merits. Formal recognition to such a suggestion was given not very long ago in the report of a special Committee on Education for Commerce appointed by the Ministry of Education of Great Britain. This report, known as the Carr-Saunders report, was received with dismay by the Institute of Chartered Accountants in England and Wales, which has recently published a careful and thorough rebuttal of many of the Carr-Saunders Committee's remarks on the profession of chartered accountancy.

The Carr-Saunders Report included this recommendation:

> We consider that day-time facilities for institutional training of a professional qualification should be available, and we recommend that part-time day courses, possibly on the "sandwich" principle, giving preparation for the intermediate and final examinations of the three main bodies of accountants, should be organized . . .

On this suggestion the English Institute expressed its views succinctly:

> The "sandwich" principle of part-time day courses with part-time practical experience would jeopardize the prospects of the articled clerk being properly engaged on the practical work which is essential to his training. The work to which an articled clerk is allotted cannot be held back or "sandwiched" to suit his convenience. Nor can he be assigned to work which he will be unable to carry through because of the "sandwich" interruption of courses of theoretical study.

On the "leave for study" question, the English Institute says:

> Any attempt to adhere to a fixed program of leave would inevitably result in the articled clerk not being assigned to work which would have provided important experience if only he had been available to carry it through without interruption.

In so far as the non-university man is concerned, I believe that the great majority of our members would concur with the English Institute's objection to sandwiching theoretical studies into the daily routine of a professional office.

Seven Years for University Man

Now the university degree man, on the other hand, in many of the Provinces, has to face seven years from the time of obtaining his senior matriculation to his completion of his final C.A. examinations and admission to membership. If he takes a Bachelor of Commerce degree, this requires a four year course, and in recognition of the commercial and accounting

studies which he undergoes at the university, our Institute, in common with several others, will allow him to reduce the five years of articles or registration to three. Thus he serves four years at university and three years under articles in a professional office. If he takes Arts or a degree other than Bachelor of Commerce, he will generally require three years at university and be allowed to reduce his period of practical experience by only one year, from five years to four years, so that the total is again seven years.

This is a formidable total and exceeded only by the very special requirements of medicine. At no time, I suggest, does it seem more formidable than to the Bachelor of Commerce on his day of graduation. He has completed four winters and springs of intensive study and, in the majority of cases, three summers of hard work to assist him with his university fees and expenses. Many of his fellow graduates are about to take up positions in commerce and industry, positions in most cases better paid, offering sometimes a prestige equivalent to that of a cadet officer in the armed forces, and with opportunities for advancement. If, on the other hand, he registers as a student for the profession of chartered accountancy, he faces almost certainly a lower scale of pay than he could obtain elsewhere; his prestige is *nil;* and for the first few months he will be obliged to carry out the well-known menial tasks which fall to the lot of the junior auditor, and to take instruction in these tasks from younger lads, because they have had a year or eighteen months' experience in the principal's office. It must be admitted that the profession does not present a very attractive picture to the university graduate, and we must recognize that this is a serious handicap to our recruitment from the universities, which should be a fruitful source of supply to all the professions.

Is There a Remedy?

I do not think the answer lies in the mere reduction of the time which the university graduate must serve as a registered or articled student. When we consider the vast field of accounting and auditing problems that lie before the young qualified C.A. today, I doubt very much if the memberships of those Institutes that today require a three-year minimum, as the qualification of practical experience necessary to membership, would be willing to countenance a reduction of this period.

Can we turn the flank of this seven year period by any other means? In the first place, we must note the possible wastage, from the point of view of education and experience for our profession, of a year to fifteen months in the career of the Bachelor of Commerce. These are his three summer vacations, running generally from about the beginning of May to, roughly, the end of September, 4½ to 5 months, or from a year to 15 months in total. Generally, these periods, if not spent actually on extended vacations, are employed in occupations far removed from the fields of our profession. They may be spent by some in a summer bookkeeping position, which would certainly prove of some ultimate benefit to a student of our profession. However, even if the undergraduate were to spend his summers in the office of a chartered accountant, there is no provision for reduction of his term of student registration or articles by a period corresponding to the time so spent.

The English Institute's Solution

Now the English Institute has grappled with this problem, and in 1947 produced a scheme whereby it is possible to obtain within a period of 5¾

years both a university degree and a professional qualification. It may be noted that this period of 5¾ years is exactly our period of seven years less the 15 months of university summer-time vacations. The period is divided as to attendance at a university for a period of 2¾ years, and as to practical experience as a student in articles to a professional firm for a period of three years. So far as possible it is arranged that students before entering university spend a few months in the accountancy office to which they are attached. Contact is maintained with these offices during the period of university training and the students are expected to work in such offices for at least four weeks during each summer vacation, and to return to the offices a year or more before making their professional final examination.

So far as I have been able to ascertain, this scheme is working successfully in England, and there is no doubt that it is an attractive one to prospective students. The period is only three-quarters of a year longer than the normal five years of articles, in compensation for which the student obtains both a university degree and membership in the Institute, and he is afforded opportunities periodically for quiet thought and study of the broader aspects of his future profession which are not available to the student spending his entire five years of preparation in a busy professional office. Also, the student has the advantage of knowing, at the outset of his studies, that his university career is one part of a coherent scheme for his training as a chartered accountant.

Merits Serious Consideration

I should like to suggest to you that this scheme of the English Institute, or one like it, merits serious consideration on the part of our provincial Institutes. I make no doubt that such a scheme presents severe problems to us. It seems almost essential, and the English Institute was obliged to concede this, that students who have passed their university degree be exempted from the intermediate examination of the Institutes. Such exemption would not be granted without grave heart-searching by those provincial Institutes which at present require university graduates to sit the intermediate uniform examinations. The question of remuneration, with the alternation between salaried employment and unpaid university attendance, would raise greater complications than in England where the salaries paid to articled clerks are either non-existent or very low.

The English scheme was considered briefly by the Committee on Education and Examinations of our Institute about three years ago. The problems which I mentioned, together with several others, appeared formidable indeed, and after some discussion it was decided not to pursue the study further. At that time, however, the dearth of students was by no means as alarming as it is now. I suggest that the time is ripe for another attack on this problem, and that efforts might be made by committees of individual Institutes, collaborating with representatives of their provincial universities, to see if the period of combined university and professional instruction cannot be efficiently compressed into a period of about six years, with arrangements that will make the scheme thoroughly attractive to prospective students.

2. Relatively Low Rates of Pay

I take up next the question of the relatively low rates of pay offered by our profession to prospective students.

Here indeed is a question to rush in where angels fear to tread. I am well aware that there is a wide range of opinions on this subject within our membership. These opinions run all the way from those who feel that the training and experience given to students is a privilege to them and a burden upon the employer, that in these circumstances $50 or $60 a month is ample compensation in the early years, to those at the other end of the scale who feel that they must compete not only with other professional firms but also with the scales offered by business and mercantile houses.

The wide range of opening salaries that exists does not permit statistical precision in comparison with the offers made by commerce and industry, nor is it necessary for the purposes of these remarks. We all know that our salary scales, certainly in the commencing years of a student, whether he be a non-university or a university degree man, are not competitive with those available in commerce and industry, and we all know the reasons. We offer our students training and instruction, which goes far beyond the minimum necessary to the performance of the routine tasks assigned to them in their early stages, and which is, or should be, from the outset a part of the grand design to produce ultimately a fully-qualified chartered accountant. Secondly, the new student is usually capable of only quite elementary tasks and naturally he performs these slowly and requires constant direction. Familiar indeed to all of us is the defence of the assistant who is taxed with taking too long over a particular assignment, that he was obliged to carry it out with one or more new students in his team. Thirdly, clients are aware of the limitations of new students and are naturally inclined to pay a low scale of daily rates for junior auditors.

Attitude of University Graduates

These reasons for a low scale of pay are valid and cogent, but we should realize that they are not very readily appreciated on the other side of the desk by the applicant to enter the profession. The problem is less severe among young senior matriculants, who intend to take the five year training without university degree, than amongst university graduates. The lad of 18 or 19 is living at home and will probably continue to do so for some years. He has no domestic obligations, and when he comes to leave the parental roof and set up his own home, he may by then be a third or fourth year student, having passed his intermediate examination, and be earning a salary which will not be out of line with his requirements.

But I think we have to consider very seriously the case of the university graduate. He is rarely less than 22, which is an age at which most young men in this country expect to be earning their own living. He has probably been on short commons for three or four years and is keen to find his feet and be independent. To this man a salary standard which does not permit him to do so is a severe and often insuperable obstacle to entry into our profession.

In seeking his services, we must realize that we are up against competition which is both aggressive and financially superior. With the increasing specialization of all branches of commerce and industry, the great business houses and industrial undertakings have come to have greater regard for the value of university training and degrees. Consequently they are in the market for graduates in force, often many months before the final examinations. They do not wait for applications, they send their personnel man-

agers out to the universities, with their visits announced well in advance, to interview prospective employees. They handle these visits with skill and dispatch and they feel able to offer substantial salaries. A senior member of the School of Commerce of the University of British Columbia informed me that the members of the 1951 graduating class obtained, with few exceptions, a minimum salary of $175 per month and that in his opinion the average was about $200 per month. This past winter at the University of B.C. one of the leading banks made known at the School of Commerce that it would offer an opening salary of $2,600 per annum, with a training program to boot. Many business and industrial organizations offer courses of training in their various departments to the newly-joined staff member, and this tends to offset our claim that we give instruction that compensates for low pay.

How to Meet Problem

Now the answer is not to try to compete on equal terms with these salaries. It would be economically impossible for one thing, and for another, even if it were, I do not think our profession would be happy with students whom it had attracted simply by high commencing salaries. I think we should give greater recognition than we perhaps have done in the past to this situation, and I think individual members should in our different localities study very carefully the position as it appears when seen through the prospective student's eyes, and then try to set their scale of salaries at a level which seems to offer the matriculant, or the university graduate, the satisfaction of at least his basic needs. More important is the indication to the prospective candidate of the better financial future that lies before him if he applies himself whole-heartedly to his chosen profession. I think we may safely indicate to prospective students that they will reap their reward and that they will not only enjoy a high degree of security through their possession of membership in our Institutes, but that if successful as chartered accountants whether in practice or in commerce, they may expect to enjoy an earning power in excess of that achieved by the majority of their fellow graduates who chose not to go on and submit to a further three years of training. Added to this are the advantages of the wide scope and opportunities that are available to the young qualified chartered accountant if he decides to leave the profession, which has afforded him an excellent training and background for a great diversity of occupations.

3. Public's Ignorance of the Profession

This brings me to the third cause of our dearth of students, the public's ignorance of our profession and the opportunity it affords to the young and ambitious man. I believe it to be the most important of the three factors I have mentioned so far, and the one that we, as chartered accountants, can do most about. I wonder if our members are aware of how little is known about us, and our work, among the public at large. It can be really quite astonishing.

I should like to discuss briefly four principal aspects of this lack of knowledge of our profession:

Remuneration

1. There is a very general assumption that the commencing rates of pay to students are extremely low, a good deal lower than they are in fact. As I have previously mentioned, commencing rates are lower and do not purport

to compete on equal terms with those offered by commerce and industry, but that is no reason why our rates should be bruited abroad as little better than starvation wages. Of course, as we are all aware, sensation is always the first handmaid of rumour, and the extreme and the bizarre often have the swiftest currency. As an instance of the harmful effect of such a rumour upon the flow of applicants for our profession, I quote the following conversation:

I was returning from our university where I had been interviewing a few Commerce graduates, and offered a lift to an under-graduate walking along the road back to Vancouver. The conversation quickly took a turn towards the purpose for which I had been out to the university. On finding out that the young man would graduate in Arts in a few months time and that he had no particular ideas of what he was going to do, save for a vague inclination towards a business career of some kind, I asked him if he had thought of entering our profession. Yes, he had, but one of his fellow under-graduates had been down to interview a chartered accountant who had offered as a commencing salary $40 a month. It was clear from my informant's remarks that the specific had been too readily mistaken as an example of the general, and that a discouraging and bleak picture of our profession had obtained currency among a substantial group of university men.

The point of this story is not to criticize the offer of $40 a month which the firm or practitioner in question had a perfect right to make, and may indeed have been compelled to make by the circumstances of his practice. The point is to recognize the distorted picture of the profession painted to a number of undergraduates and to realize that active efforts must be made to demonstrate to university authorities and under-graduates that the picture seen as a whole offers much more variety and often more favourable conditions than this particular instance.

Mathematical Skill

2. It is curious how widespread is the idea that a chartered accountant must needs be a man of extraordinary mathematical knowledge and ability. Our work is often classed with that of the actuary. It is characteristic of this belief that when I called for the first time upon the Dean of Students at the University of British Columbia and explained that I wished to enlist his help in bringing our profession and its advantages — not to mention the particular ones offered by my own firm — to the notice of under-graduate students, his first reaction was to reply, "Ah! The person you want to see is our Professor of Advanced Mathematics." While, of course, I do not wish to suggest that skill in advanced mathematics is a handicap in our profession, I think that we should all agree that it is not essential, and that a satisfactory knowledge of, and ability to apply normal high school mathematics, suffice for the every day purposes of our work.

Another unhappy facet of this same question is that it is often assumed that all we require of our respective students is an aptitude and facility for figures. One of my standard questions when interviewing prospective students is to ask what courses in English they have taken and how well they did in these courses. On occasion the reply is couched in the revealing terms of "Well, I didn't do very good in English". All too often, however, the reply indicates that the candidate has lacked either proficiency or interest in

the pursuit of courses in English reading or composition, and the manner of the response implies that the applicant does not consider this condition a disadvantage for our profession. Need I say that his disillusionment is swift and harsh. The unfortunate feature of this impression is that many young men with interest in the written word and talent for expressing their thoughts in a logical and readable manner never think of our profession as offering scope for such activities.

Breadth of Professional Interests

3. There is relatively no understanding of the wide interest a professional accountant obtains from his contacts with the businesses and undertakings of his clients as he visits their mills, factories, shipyards, grain elevators, ranches, mines, etc. Even among my own acquaintances, I have heard remarks which conjure up a vision of a dull and monotonous occupation, a profession devoted to an obscure mathematical cult, in which we, gloomy and austere priests, carry out an endless round of oblation and sacrifice before the twin gods of Debit and Credit, whose first and only commandment is that a false balance is an abomination.

Professional Status

4. We are relative newcomers to the ranks of the professions, and it is probably for this reason that in our pursuit of the professional ideals of justice, honest dealing, and service to the community we still receive less recognition than the other professions of law, medicine, and arms.

Of course, I am not suggesting that these erroneous ideas exist everywhere. Increasing recognition of the valuable place that our profession occupies in the community has been given in recent years, not only by the financial and business community but by governmental bodies and authorities of all kinds. But I do suggest that these and similar misconceptions exist in large sections of the public's mind, and nowhere more so than in the quarter where it is least desirable that they flourish, viz., in the minds of large numbers of young men who are completing their academic education and are considering their choice of a career.

Two Remedies:
1. Inform the Public

I wish to put forward two remedies for this condition. In the first of these I am going to suggest that each and every one of us can be active. I think that this unfortunate situation can be overcome if we recognize that it exists and if we set out to make definite efforts to provide the remedy. We should take steps to make known the true facts about our profession and the opportunities and advantages it offers to prospective students. The old Roman admonition "Be more than you seem" is an excellent precept but I think we could lift at least the corner of the bushel under which our light is hidden without detracting from our reputation for modesty. This can be accomplished in a general way by the main body of members of our various Institutes taking an interest in this matter and using the opportunities that occur from time to time to influence young men towards our profession as a career.

Such opportunities arise in conversation with clients who have sons of school-leaving age, with friends or acquaintances who are university professors or school teachers, or with the boys themselves. I should like to arouse the interest of the general membership in this matter, for I believe that the exertion of their influence in the manner suggested, and no doubt in other ways also, would assist greatly in the solution of this problem.

Summer Employment

In the United States a very common method of introducing undergraduates to the profession of accountancy is for public accountants to employ groups of undergraduates for a semester in their offices. This is usually done during the busy season from the beginning of Jannary to the end of March. In addition, therefore, to being helpful to the employer at a time when his staff is hard pressed, it gives opportunity both to the employer to know prospective students, and to the students to learn something of the life of the profession under practical working conditions. At the end of the semester the undergraduate returns to his university. A substantial number of undergraduates who have worked in offices in this manner return to the same offices after graduation.

Under the semester system of the American universities, an undergraduate going into an accounting firm for three months is retarded in his studies by only one semester. In addition, he may get certain credits on account of his graduation requirements for the practical experience he has undergone. Unfortunately, this system is not readily workable with the Canadian universities, where the courses are arranged on an annual, and not a quarterly or semester, basis. Thus a student could not take time out from his university attendance in the winter without putting his graduation date back by a whole year. Canadian undergraduates are available during the long summer vacation, but this is generally the least busy season of the year for chartered accountants, and one in which they often find difficulty in employing their regular staff, let alone taking on temporary men.

However, during this past winter the School of Commerce at our University of British Columbia indicated that there were several students who wished, if possible, to spend their vacation working in a chartered accountant's office. My firm determined to tackle this problem as an experiment, and we took on two students from the beginning of May to the end of August. It has proved a most interesting and satisfactory experiment. We were fortunate in taking on two enthusiastic young men, who have earned excellent reports from the seniors with whom they worked.

Naturally, we hope that these undergraduates have enjoyed their work for a short time in the profession and in our office, and that their experience, when discussed with their fellows during the coming year at university, will be productive of interest in an increasing circle. I should like, therefore, to commend some such scheme to practising members, particularly those who do have a substantial volume of business during the summer and may sometimes be hard put to carry out their commitments and at the same time fit in staff holidays.

2. Attack the Problems at the Source

So much for the general membership. I think there is also room for a specific attack on the problem by small groups of members of the various Institutes. These groups should endeavour to reach directly the sources from which we must obtain our students, viz., the schools and universities. A number of firms already send representatives to the universities to interview members of the graduating classes, to obtain new students for the following year. This, however, is only to catch such horses as have elected to stay in the stable after the door has been open a long time. They can choose only from those, alas generally few, who have made up their minds that they

wish to enter the profession. What I am recommending is that we bring the merits of our profession to the notice of large numbers of students before they have made their career decisions.

In this endeavour there are three main groups whose interest we should seek to obtain:

(1) the students themselves,
(2) their teachers,
(3) their parents.

Of these three groups the parents are probably the most influential and yet the most difficult to reach since they represent the general public and are not to be found in any one group or place. In this field I believe much can be accomplished by the general membership, as I have already mentioned.

Their efforts may be helped by the production and distribution of informative pamphlets. An excellent, if brief, pamphlet has been published by the C.I.C.A. Ontario has issued a booklet giving a full explanation of the educational requirements for the profession and the training and instructing of the student leading to his membership. Our congenial hosts, the Alberta Institute, have just produced a booklet in the modern style of questions and answers with illustrations including a photograph of a most delectable young lady, which (aided by its close juxtaposition to a caption "What opportunities are there for a chartered accountant?") should do much to correct the ideas of our profession as being prosaic and lacking in glamour.

The Teachers

To reach whole groups of students directly it is necessary to make the approach through their teachers, who alone can make arrangements for the time and place of any meetings or classes which we might wish to have members address. Merely to ask the teachers to act as organizers of meetings would be to by-pass a most potent form of influence on young minds looking about them and endeavouring to choose a career. Efforts should be made, therefore, by the select groups I have suggested to interest the members of the teaching profession in accountancy and its opportunities. This may be accomplished in a variety of ways with which we need not be concerned here. Personal interviews, a luncheon or a dinner to a group of leading educational authorities in your city, should be productive not only of interest in the teachers' minds, but of suggestions from them of methods of approach to their students. Finally, there is needed a group of good speakers who can talk easily and informatively to classes of students.

I am not suggesting a great whirlwind propaganda campaign which would be alien alike to the traditions of our profession and the wishes and interests of our members. I am suggesting that a small and zealous group in each Institute, who would preach what they practice with tact and discretion in the right quarters, might accomplish a great deal in increasing the flow of students to the profession.

Presentation of Financial Statements to the Public

By Wilfred Stempel, F.C.A.

Recent advances in the technique of informing the public of business operations

THERE has been a definite trend during the past few years by several of the larger corporations, including banks, to present their yearly financial statements in such form that the general public can readily understand them without requiring an intimate knowledge of accounting. This progressive step is all to the credit of those corporations that have adopted this method.

Responsibility of Accountants

As a professional body accountants have very definite responsibilities, and perhaps one of the greatest of these is to see that the public is kept informed as to the operation of public and private corporations. We have no right to obscure financial statements under a cover of accounting verbiage which, however correct, does not convey the true import of the financial picture so that it can be visualized by the shareholder, the ratepayer, or the interested public.

In the past the trend has been to present a statement of trading, profit and loss, and balance sheet, drafted along the formal lines of debit and credit. From a pure accounting standpoint this method is undoubtedly correct, but we must remember that outside of the accounting profession, the average person is not concerned with debit and credit, rather he wishes to know in as simple a form as possible the following:

1. What profit if any was made during the year?
2. Has the corporation been protected by providing sufficient reserves for federal and other taxes?
3. If a dividend has been declared, is there sufficient working capital left to carry on the operations of the corporation?
4. Are the current assets simply shown in relation to the current liabilities?

Method of Presentation

If we are agreed that the foregoing covers the usual points that are raised in the mind of the average citizen, then what form should a financial statement take for presentation to the public?

We must, of course, prepare and work from the formal statements which are used as a basis for all our calculations. In presenting the trading, profit and loss account, the term "Statement of Operations" could be used. This statement would combine both the trading and the profit and loss account, and would be drafted in such form as to eliminate lin-

ing up the debits on one side and the credits on the other. In place of using debit and credit procedure, the method would be to show by a series of additions and deductions how the profit or loss for the year was determined.

Choice of Terminology

In following this method great care must be used in the choice of terminology. Only phrases that simply and accurately describe the operations should be used. For instance, the phrase "Capital Cost Allowance", though quite correct, could possibly be better described as "Cost of wear and exhaustion of facilities" with the word "depreciation" in brackets. The use of "fog" words such as *accrued, deferred, contingent, collateral,* etc. should be avoided whenever possible.

When the net profit or loss has been arrived at, a simple percentage figure showing the relationship to the sales would be of interest to many who read the statement.

Carrying this statement a step further by deducting the dividends paid through the year and adding the profit employed in the business at the beginning of the year, it will be possible to arrive at the profit invested in the business since the inception of the company.

Let us turn now to the method of presenting the balance sheet. It is suggested that the term "Statement of Financial Position" should be used and the same procedure that was used in setting up the "Statement of Operations" should be followed. Bear in mind that when drafting this statement, one of the principal points is to show as clearly as possible the net available assets together with the shareholders' equity. Another point is to give a clear picture without showing too many details. For instance, show accounts receivable at a net figure, i.e., *less* the reserves for bad debts. The same thing applies to the fixed assets such as buildings which should be shown *less* the depreciation reserves. If anyone desires more detailed information, it can easily be supplied, but the chief object is to prepare a statement that the majority will understand.

Municipal Statements

The presentation of municipal statements differs somewhat from company procedure. In order to clarify the financial activities of a municipality, it is necessary to prepare three statements. The first statement would deal with the tax situation, the second with the revenue and expenditure, and the third with the balance sheet.

The "Tax Statement" is important because most ratepayers are interested in knowing what taxes are levied, what the cash collections were, and how much is still left on the roll to be collected. All this information can be given in concise form, including such information as the percentage of cash collected to the taxes receivable. It is also desirable to show the net assessed value of all properties, together with a breakdown of the mill rate and the tax levies.

The "Revenue and Expenditure Statement" will show the total revenue for the year broken down into the principal sources. From this figure will be deducted the operating expenses broken down into committees, and also any capital expenditures provided for out of revenue funds. The net result of these calculations will be the current operating surplus or deficit for the year. If the municipality operates a public utility such as light or water, these will have to be included in this statement in total. In every case the figures must be grouped so as to show the financial position as concisely as possible without going into too much detail. Here again the object is to supply the vital information to the

average ratepayer, and if more details are required they can be easily supplied.

Municipal Balance Sheet

In the past the balance sheet of a municipal corporation has generally been a source of confusion to the average ratepayer. Quite often, to make matters more complicated, the balance sheet is split into several sections representing revenue, capital, and utilities. It is quite true that from an accounting standpoint this is very necessary, but for presentation to the public it serves only to confuse. In order to overcome this conflicting procedure, and present the balance sheet so that the ratepayer can understand it, a simple statement under the heading of "Financial Position" is suggested. This statement will combine all the balance sheets and will present one consolidated account. The final figure of this statement should show whether or not the cash, securities, taxes receivable, property, and so on, exceed the debenture and current liabilities.

A Trend to Streamlining

This has been rather a heroic attempt to place before the accounting profession the need for simplified statements in so far as the public are concerned. No doubt many will not approve of departing from the tried and proved methods, yet streamlining is something that we must recognize as a trend of the present times.

What ever thoughts we may have on the subject, there can be no question that no change can, or should be, made in so far as the fundamental principles of accounting are concerned. No matter how much we may simplify a financial statement, there will always be in the background the standard trading, profit and loss account linked with our proven friend the balance sheet.

The following examples will help to clarify these thoughts which are submitted with a view to a better understanding between the general public and the accounting profession.

(These statements appear on pp. 218-221)

Mr. Wilfrid Stempel, F.C.A. was born in London, England but has been a resident of Canada since childhood. In 1928 he was admitted to the Saskatchewan Institute and practised the profession with G. G. Patrick & Co., Saskatoon, for 15 years. During the war he served with the R.C.A.F. Accounts Division and is now associated with Harris, Fingarson & Co., practising in Calgary. He was president of the Saskatchewan Institute in 1939.

BLANK COMPANY

STATEMENT OF FINANCIAL POSITION

as at 31 December 1950

(*Dollars only*)

Current assets:		
Cash on hand and in bank		$ 900
Accounts receivable from customers		
Less estimated accounts which may not be collected		3,400
Inventories based upon cost price		7,291
Total current assets:		11,591
Deduct:		
Current liabilities:		
Accounts payable for material	$ 2,950	
Miscellaneous accounts payable	1,617	
Federal income taxes payable	443	
		5,010
Net current assets available:		6,581
Add: Other non-current assets.		
Prepaid insurance and taxes etc. cost allocable to future operations		200
Land, buildings, equipment, etc. valued at cost *less* depreciation		6,618
Patents, trade marks, and other intangibles at nominal cost		1
		13,400
Deduct:		
Debentures due in 1961	3,000	
Reserve for future expansion	900	
		3,900
Total net available assets:		$ 9,500
Divided as to shareholders' interest:—		
Common stock:		
250 shares at $10.00 per share		$ 2,500
Profit invested in business		7,000
		$ 9,500

BLANK COMPANY

STATEMENT OF OPERATIONS

For the year 1950

(*Dollars only*)

Sales for the year		$ 46,700
Deduct:		
Inventories 31 Dec. 1949	$ 6,500	
Materials purchased	$ 36,217	
Wages, salaries, rent, local taxes, pension plan and office expenses	8,000	
Other costs of conducting the business, and marketing the products	1,000	
Cost of wear and exhaustion of facilities (Depreciation or capital cost allowance)	550	
Interest on borrowed funds	114	
Federal income taxes	443	
	52,824	
Less:		
Inventory 31 Dec. 1950	7,291	
Costs allocated to year		45,533
Net profit for year		1,167
Percentage of net profit to total sales 2.5%		
Deduct:		
Dividends paid during the year		250
		917
Add:		
Profit employed in the business at the beginning of the year		6,083
Profit invested in the business since the inception of the company		$ 7,000

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Financial Position

as at 31 December 1950

(*Dollars only*)

Cash on hand and in bank	$ 19,093	
Due from ratepayers re taxes	7,868	
Due from water subscribers	1,361	
Total cash, taxes and accounts receivable		$ 28,322
Less accounts payable		8,201
Cash and accounts receivable exceed current commitments by		20,121
To which add:		
Land, buildings, equipment, water and sewerage system at cost value		
Less depreciation	100,585	
From which deduct debentures payable over fifteen years	86,321	
		14,264
Net Total of cash, accounts receivable, properties, etc. exceed debenture commitments by		$ 34,385
Divided into:		
Prior years' accumulated surplus	$ 28,223	
This year's operating surplus	6,162	
Accumulated surplus 31 Dec 1950	$ 34,385	

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Revenue and Expenditure Statement

for 1950

(*Dollars only*)

Revenue:	
Municipal, school and hospital taxes and penalties	
Less discounts and cancellations	$ 81,959
Licences, permits, rents, etc.	949
Fines and police court revenue	605
Community services (rink rentals, etc.)	513
Water Utility:	
Consumers' and other charges	19,592
Total revenue for the year	$103,618

Deduct:		
Expenditures:		
General administration	$ 5,200	
Public works	6,500	
Hospital and community services	21,000	
Educational services	34,885	
Protection of persons and property	3,393	
General debenture redemptions, principal only	6,534	
Capital expenditures provided out of revenue funds	1,547	
Water Utility:		
Operating costs, debenture charges, etc.	18,397	
Total expenditures for year		97,456
Current operating surplus for the year after providing for all operating charges including debenture retirements and capital purchases		$ 6,162

NOTE: The water utility shows a net operating surplus of $1,195 after all operating and debenture charges have been made.

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TAX STATEMENT
for 1950
(*Dollars only*)

Arrears of taxes as at 1st Jan 1950	$ 8,500	
Penalty added 1st Jan 1950	680	
Taxes re-instated	650	
Current levy for 1950	86,559	
Total all taxes on the roll		$ 96,389
Deduct:		
Cash Collections:		
Current 90%	$ 77,971	
Arrears 62%	5,270	
Total Cash Collected	83,241	
Discounts	4,300	
Cancellations	980	
Total cash, discounts and cancellations		88,521
Balance remaining on tax roll 31 December 1950		$ 7,868

Note:—

Net assessed valuation of all property, *less* sundry adjustments ..... $ 1,236,550

Mill Rate for 1950		Producing
Municipal	25 mills	$ 30,653
School	28 mills	34,885
Hospital & Community Services	17 mills	21,021
Total Mill Rate	**70 mills**	$ 86,559

Letters from Readers

Oct. 1, 1951

PROFESSIONAL SECRECY

Sir: I notice in a recent issue of *The Canadian Chartered Accountant* that you would like more people to write to you about the articles appearing in your magazine.

I suppose I am one of the few people even to have read the article on the professions in the June issue, but that article suggested the following idea to me: that this whole business of "secrecy" which is such a fetish among professional people is the means adopted to avoid publicity for the mistakes made by professional men. Apparently the view is that by being tight-lipped we get the benefit of the doubt, and so in this negative sort of way acquire prestige.

I am going to go so far as to suggest that the reason so few people write to the editors of professional magazines is that they are afraid of exposing their fallibility. Chartered accountants are afraid to see themselves in print for fear someone will criticize them. They say they are too busy or too lazy to write, but the truth is that they are afraid to be wrong.

And yet, let's look at this thing again. Have our most prominent accountants ever written anything? That is the way many of them became prominent. Have they ever been wrong? Read the old accounting journals and you will find them expressing ideas considered obsolete today. Did it hurt their reputation? Apparently not. (Maybe nobody read what they wrote.) Anyway, it seems that the way they developed themselves was by expressing themselves.

A CHARTERED ACCOUNTANT WHO
IS AFRAID TO REVEAL HIS NAME

Toronto, Oct. 1, 1951

BULLETIN NO. 6

Sir: Research Bulletin No. 6 suggests that the auditor's report should contain the following: "My examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as I considered necessary in the circumstances." In arrogant mood, one might reply "so I should have expected"; in more diffident mood one might ask whether these words add anything to the report. In some reports which contain these words they are followed by some such phrase as "but I did not conduct a detailed audit of the year's transactions". This has the possible merit of educating the public to understand the limitations under which most audits are performed.

I suggest that an auditor is appointed on the grounds that his trained judgment will enable him to do the job effectively and that nothing is gained by the auditor reporting that he has exercised that judgment.

C. A. ASHLEY, F.C.A.
Dept. of Political Economy
University of Toronto

News of our Members

Mr. J. Gordon Mock, C.A. (Que.), has been elected chairman of the Montreal Chapter of the Society of Industrial and Cost Accountants of Quebec.

Mr. V. W. T. Scully, C.M.G., F.C.A. (Ont.), has been appointed comptroller of Steel Co. of Canada, Hamilton.

Professional Notes

CANADIAN INSTITUTE

Sir Ian Bolton, Bart., a past president of the Institute of Accountants and Actuaries in Glasgow and a member of Council of the recently constituted Institute of Chartered Accountants of Scotland, who has been visiting Canada in connection with the Boy Scout movement, was a guest of the Canadian Institute at luncheon in Toronto on September 24.

ALBERTA

Price, Waterhouse & Co., Chartered Accountants, announce the opening of an office at 10076 Jasper Ave., Edmonton, under the management of Mr. J. W. Beaton, C.A.

BRITISH COLUMBIA

Mr. Roy Gordon Bell, C.A. announces the opening of an office for the practice of his profession at 1021 Marine Bldg., Vancouver.

• • •

A. P. Gardner & Co., Chartered Accountants, have announced the appointment of Mr. A. M. Clark, C.A., as resident partner of their recently opened office at Prince George, B.C.

• • •

Mr. Frank A. Robertson, C.A. announces the opening of an office for the practice of his profession at Rm. 105, 412 Seymour St., Vancouver.

• • •

McDonald, Currie & Co., Chartered Accountants, announce that Mr. A. D. Peter Stanley, C.A. has been made a resident partner of their Vancouver office.

MANITOBA

The Institute of Chartered Accountants of Manitoba now gives a prize of $25 for the student ranking highest in the Province in the subjects of Grade 11 English and Mathematics. This year the prize was awarded to Harold Blaine, Dauphin Collegiate and Technical Institute.

ONTARIO

Mr. K. Douglas MacLennan, C.A. announces the opening of an office for the practice of his profession at 744 Ouellette Ave., Windsor.

Western Ontario Chartered Accountants Club

Forty members of the Chartered Accountants Club of Western Ontario took part in their golf tournament held at the Stratford Country Club. Mr. Elmer Amsbery, C.A. was in charge of the arrangements, assisted by Mr. Russ Morton.

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Laflamme & Seguin, Chartered Accountants, announce the removal of their offices to 338 Rideau St., Ottawa.

• • •

Price, Waterhouse & Co., Chartered Accountants, announce the opening of an office in the Pigott Bldg., Hamilton, under the management of Mr. L. H. Johnston, C.A.

QUEBEC

M. Jacques LaRue, C.A. annonce qu'il a formé une societé avec messrs. Marc Angers, C.A. et Godfrey Gourdeau, C.A., auparavant de la firme Angers, Gourdeau & Cie. La nouvelle societé sera connue sous le nom de LaRue, Angers, Gourdeau & Cie, comptables agrées, Québec.

The Students' Department

J. E. Smyth, C.A., Editor

NOTES AND COMMENTS

IN the past we have argued that when a cash discount is taken it amounts to a reduction in the cost of the goods or services purchased. Moreover, lest our personal views carry little weight, we have cited good authority for the opinion that revenue cannot arise out of a purchase transaction.

One reaction to all this concern about cash discounts is that we enjoy stirring up a tempest in a teapot. We are told that the practice of granting cash discounts is dying out, and that in any case the amount will be small relative to the other items that participate in the measurement of income. Therefore, the classification of cash discounts is of little importance, and concern for it is academic.

One would suppose that this would put us properly in our place, and that the words "cash discounts" would never again pass our lips. But not so. We refuse to apologize for what is "academic". That word has acquired an emotional connotation that makes it a convenient weapon to squelch an argument. (In fact we, too, have used it on critics with very good effect when we were unable to justify what we were doing.) Even if cash discounts are relatively small in amount, is it not of some "practical" importance to accountants that they should be clear about what they mean by "revenue", "expense", and "income"?

* * *

If bookkeepers could be persuaded to enter purchase invoices in the Purchase Book at their *net* amount (i.e., after deducting any discount available), cash discounts taken could be properly treated as a reduction in cost, and in the bargain we should have the additional useful information of cash discounts *not* taken — surely a "practical" result.

For illustration of this point let us suppose The Book Shop has purchased 80 copies of *Pilgrim's Progress* from The Classic Publishing Co. The price is $3.00 a copy, terms 2% ten days, net 30 days. The amount on the invoice is $240.00, but if the bookkeeper entered only the net amount the Purchase Book would show,

Date	Purchase voucher number	Name of Supplier	Cr. Accounts payable	Dr. Merchandise purchases
1951				
Nov. 1	116	The Classic Publishing Co.	235.20	235.20

Then if the payment was made within the ten day period allowed, The Book Shop's Cheque Register would show as follows:—

Date	Cheque number	Payable to	Dr. Accounts payable	Dr. Cash discounts not taken	Cr. Bank
1951					
Nov. 8	112	The Classic Publishing Co.	235.20		235.20

If the payment was not made in time to take advantage of the discount the Cheque Register would show as follows:—

Date	Cheque number	Payable to	Dr. Accounts payable	Dr. Cash discounts not taken	Cr. Bank
1951					
Nov. 16	180	The Classic Publishing Co.	235.20	4.80	240.00

As matters stand, the bookkeeping practice of recording invoices in the Purchase Book at their *gross* amount is so deeply-rooted that a wide acceptance of the theoretically correct treatment is now unlikely.

Cash discounts may be taken on many kinds of purchases of goods and services, and are not confined to purchases of merchandise. They are often available, for example, for the prompt payment of electricity bills, municipal taxes, and advertising. Once invoices are entered in the Purchase Book at their gross amount, all hope must be abandoned of treating any cash discounts taken as a reduction of cost. It would be most awkward to record each cash discount, when taken, as a credit to the particular account charged with the gross amount of the invoice. The Cheque Register would need many extra columns, and the amounts involved would probably be small. The proprietor who has his bookkeeper's salary to pay is unlikely to be impressed with such statistical niceties. The result is, of course, that all cash discounts are credited to one account from the Cheque Register, "Cash discounts taken". The credit balance in this account is closed to profit and loss account at the end of the year, alas, *as a revenue account.*

A PUZZLE FOR NOVEMBER

Below are certain letters (all of which, with one exception, are vowels) arranged in a certain order and having a number of stars between them. Each of the stars stands for a consonant or another letter. If the necessary consonants are inserted, six simple English words will be formed, reading from left to right, and the same six words will appear reading from top to bottom. Can you supply the missing letters?

* A * * A L
A * * I * E
* * A * E *
* I * A * *
A * E * * E
* E * * E *

SOLUTION TO OCTOBER'S PUZZLE

First, find the central letter, which is A. This begins the first proverb. Immediately below this will be found R, to the left of this an O, and above the O two L's. To the right of the last L are the letters I N. The G completing the word "rolling" comes next below the N, and below this S, the initial of the next word stone. Carry on in this way and you will find the five proverbs: A rolling stone gathers no moss. Too many cooks spoil the broth. A live dog is more to be feared than a dead lion. You cannot eat your cake and have it. Peace hath her victories, no less renowned than war.

PROBLEMS AND SOLUTIONS

Solutions presented in this section are prepared by qualified accountants and reflect of course the personal views and opinions of the various contributors. They are designed not as models for submission to the examiner but rather as such discussion and explanation of the problem as will make its study of benefit to the student. Discussions of solutions presented are cordially invited.

PROBLEM 1

Final Examination, October 1950

Accounting III, Question 3 (17 marks)

The audited balance sheets as at 31 Dec 1949 of the S Co. Ltd. and the T Co. Ltd. are summarized as follows:

ASSETS	S Co. Ltd.	T Co. Ltd.
Cash	$ 16,000	$ 4,000
Accounts receivable	15,000	20,000
Marketable Securities—		
Owned by S Co. Ltd. (market value $12.000)	20,000	
Owned by T Co. Ltd. (market value $29,000)		29,000
Investment in U Co. Ltd.,		
6,000 shares at cost (market value $1,200,000)	600,000	
Investment in T Co. Ltd. book value (140 shares)	1,400	
Investment in S Co. Ltd. book value (900 shares)		90,000
	$652,400	$143,000

LIABILITIES AND CAPITAL	S Co. Ltd.	T Co. Ltd.
Accounts payable	$ 18,000	
Capital		
7,000 shares, par value $100 each	700,000	
12,000 shares, par value $10 each		$120.000
Surplus		23,000
Deficit	(65,600)	
	$652,400	$143,000

Under a plan of reorganization the S Co. Ltd. and the T Co. Ltd. are to be amalgamated as at 31 Dec 1949 to form the V Co. Ltd. with an authorized capital of 20,000 common shares with a par value of $100 each.

All the shareholders of the two companies agree to amalgamate except W who owns 100 shares of S Co. Ltd. and 2,000 shares of T Co. Ltd. However, W will accept U Co. Ltd. shares at their market value for his interest in the two companies. He will receive cash for any fractional part of a U Co. Ltd. share.

The other shareholders will receive V Co. Ltd. shares at their par value of $100 each. They will pay or receive cash in lieu of fractional V Co. Ltd. shares and it is intended to pay out the smallest possible amount of cash to each of the two groups of shareholders.

Required:

(a) How many shares of U Co. Ltd. and how much cash are distributable to W?

(b) How many shares of V Co. Ltd. and how much cash are distributable to each of the two groups of shareholders?

(c) Prepare the opening balance sheet of V Co. Ltd.

A SOLUTION

REVISED BALANCE SHEETS
as at 31 Dec 1949

	S Co. Ltd.	T Co. Ltd.
Current assets:		
Cash	$ 16,000	$ 4,000
Accounts receivable	15,000	20,000
Marketable securities	12,000	29,000
Investment in U Co. Ltd.	1,200,000	
	1,243,000	53,000
Current liabilities:		
Accounts payable	18,000	
	1,225,000	53,000
Inter-company investment:		
Investment in T Co. Ltd.	2,460	
Investment in S Co. Ltd.		157,816
	$1,227,460	$210,816
Shareholders' equity:		
Capital — S Co. Ltd., 7,000 shares	$ 700,000	
— T Co. Ltd., 12,000 shares		$120,000
Surplus (revised)	527,460	90,816
	$1,227,460	$210,816
Equity per share	$ 175.351	$ 17.568

Let "S" = revised shareholders' equity for S Co. Ltd.
and "T" = revised shareholders' equity for T Co. Ltd.
Then, investment of S Co. Ltd. in T Co. Ltd.

$$= \frac{140}{12{,}000}T = \frac{140}{12{,}000}(53{,}000 + \frac{900}{7{,}000}S)$$

and investment of T Co. Ltd. in S Co. Ltd.

$$= \frac{900}{7{,}000}S = \frac{900}{7{,}000}(1{,}225{,}000 + \frac{140}{12{,}000}T)$$

Solving, S = $1,227,460
T = $210,816

(a) W owns — 100 shares of S Co. Ltd. — value		$17,535	
— 2,000 shares of T Co. Ltd. — value		35,136	$ 52,671
W receives — 263 shares of U Co. Ltd. — value			52,600
and cash			71
			$ 52,671
(b) Outside interest in S Co. Ltd. 6,000 shares — value			$1,052,109
Receive — 10,521 shares of V Co. Ltd.			1,052,100
and cash			9
			1,052,109
Outside interest in T Co. Ltd. 9,860 shares — value			173,220
Receive — 1,732 shares of V Co. Ltd.			173,200
and cash			20
			$ 173,220

(c)

V CO. LTD.
AND ITS SUBSIDIARIES THE S CO. LTD. AND T CO. LTD.
CONSOLIDATED BALANCE SHEET
as at 31 Dec. 1949
ASSETS

Current		
Cash	$19,900	
Accounts receivable	35,000	
Marketable securities, at cost (market value $41,000)	41,000	$ 95,900
Investment in U Co. Ltd. at cost (market value $1,147,400) 5,737 shares		1,147,400
		$1,243,300

LIABILITIES AND CAPITAL	
Current liabilities	
Accounts payable	$ 18,000
Capital	
Authorized 20,000 common shares, par value $100 each	
Issued and fully paid	
12,253 shares @ $100 each	1,225,300
	$1,243,300

PROBLEM 2

Final Examination, October 1950

Accounting III, Question 4 (28 marks)

The EE Co. Ltd. organized a subsidiary company in South America with 375,000 pesos capital stock. Profits, losses and dividends of the subsidiary have been taken up through the investment accounts on the EE Co. Ltd. books.

The following trial balances were taken from the records of the two companies as at 31 Dec 1949:

	EE Co. Ltd.		EE (S.A.) Co. Ltd.	
	Dr.	Cr.	Dr.	Cr.
			(pesos)	
Cash	$ 25,000		150,000	
Accounts receivable	250,000		90,000	
Inter-company current accounts	45,360			162,000
Inventories 31st December 1949				
Raw materials	35,000			
Goods in process	75,000			
Finished goods	47,000		105,000	
Investment in EE (S.A.) Co. Ltd. stock	174,075			
Plant and property (net)	240,000		390,000	
Accounts payable		$ 97,000		7,500
Capital stock		500,000		375,000
Surplus		180,735	12,000	
Sales		1,042,000		1,200,000
Cost of sales	848,300		715,500	
Selling and general expense	80,000		285,000	
Exchange				3,000
	$1,819,735	$1,819,735	1,747,500	1,747,500

In addition thereto the following information has been disclosed:

(a) Inventories on hand at 31 Dec 1948

	EE Co. Ltd.	EE (S.A.) Co. Ltd.
Raw materials	$40,000	
Goods in process	55,000	
Finished goods	35,000	63,000 pesos

(b) The foreign subsidiary obtains all its merchandise from the parent company which has always billed the subsidiary at cost plus 25%, payable in dollars. Billings during 1949 to the subsidiary company amounted to $196,950 which figure may be used as the basis for computing the average rate for the year.

(c) The following are the applicable exchange rates:

On date of incorporation of S.A. company	47c = 1 peso
On date of acquisition of foreign plant	48c = 1 peso
On 31st December 1948	25c = 1 peso
On 31st December 1949	30c = 1 peso
On date of receipt of EE (S.A.) Co. Ltd. dividend	26c = 1 peso

(d) Depreciation for the year has been provided as follows:

EE Co. Ltd.	$40,000
EE (S.A.) Co. Ltd.	30,000 pesos

(e) Both companies have paid a 6% dividend during 1949. The dividend received by the parent company from the subsidiary has been taken into the investment account, but no entries were made in the parent company books for the subsidiary's profits for 1949.

(f) The parent company follows the practice of taking exchange profits or losses on conversion of the subsidiary's trial balance into current operations.

Required:

Consolidated balance sheet, statements of profit and loss and surplus as at 31 Dec 1949.

A SOLUTION

EE CO. LTD.
AND SUBSIDIARY EE (S.A.) CO. LTD.

CONSOLIDATED STATEMENT OF PROFIT AND LOSS
(in Canadian dollars)
for the year ended 31st December 1949

Sales	$1.157,050
Less: Cost of sales	838,850
Gross profit	318,200
Less: Selling and general expense	160,700
	157,500
Add: Exchange	18,915
Net profit	$ 176,415

EE CO. LTD.
AND SUBSIDIARY EE (S.A.) CO. LTD.

CONSOLIDATED STATEMENT OF SURPLUS
(in Canadian dollars)
as at 31st December 1949

Balance at 1 Jan 1949	$ 210,735
Add:	
Net profit for year as shown above	176,415
	387,150

Less:	
Dividend	30,000
Balance at 31 Dec 1949	$ 357,150

EE CO. LTD.
AND SUBSIDIARY EE (S.A.) CO. LTD.

CONSOLIDATED BALANCE SHEET
(in Canadian dollars)
as at 31st December 1949

ASSETS

Current			
Cash		$ 70,000	
Accounts receivable		277,000	
Inventories:			
Raw materials	$ 35,000		
Goods in process	75,000		
Finished goods	78,500		
	188,500		
Less:			
Reserve for inter-company profit on inventories	6,300	182,200	$529,200
Fixed			
Plant and property, less reserves for depreciation			427,200
			$956,400

LIABILITIES

Current	
Accounts payable	$ 99,250
Capital	500,000
Surplus	
Balance as shown on statement attached	357,150
	$956,400

EDITOR'S NOTE *(Re worksheet on p. 232)*:

The dollar figure for surplus of EE (S.A.) Co. Ltd. as at 31 Dec. 1948 is determined as follows:

Balance in Investment account, 31 Dec. 1948	$179,925
Capital stock of EE (S.A.) Co. Ltd.	176,250
Surplus of EE (S.A.) Co. Ltd., 31 Dec. 1948	$ 3,675

It must be remembered that the EE (S.A.) Co. Ltd. was organized by EE Co. Ltd. and has been 100% owned by EE Co. Ltd. since its formation. Because profits, losses, and dividends are taken up through the Investment account on the EE Co. Ltd. books, the balance in that account as of 31 Dec. 1948 must be equal to the total capital and surplus of EE (S.A.) Co. Ltd. as of 31 Dec. 1948.

EE CO. LTD.

WORK SHEET FOR THE PREPARATION OF CONSOLIDATED STATEMENTS — 31 DEC. 1949

	Rate	EE (S.A.) Co. Ltd. Pesos Dr.	EE (S.A.) Co. Ltd. Pesos Cr.	EE (S.A.) Co. Ltd. Canadian Dollars Dr.	EE (S.A.) Co. Ltd. Canadian Dollars Cr.	EE Co. Ltd. Canadian Dollars Dr.	EE Co. Ltd. Canadian Dollars Cr.	Consolidated Dr.	Consolidated Cr.	Adjustments Dr. (Cr.)	Adjusted Consolidated Dr.	Adjusted Consolidated Cr.
Cash	30	150,000		45,000		25,000		70,000			70,000	
Accounts receivable	30	90,000		27,000		250,000		277,000			277,000	
Inter-company accounts	actual		162,000		45,360	45,360						
Inventories	30	105,000		31,500		157,000		188,500		(1) (6,300)	182,200	
Investment in EE (S.A.) Co. Ltd.						174,075		174,075		(2) (174,075)		
Plant and property (net)	48	390,000		187,200		240,000		427,200			427,200	
Accounts payable	30		7,500		2,250		97,000		99,250			99,250
Capital stock	47		375,000		176,250		500,000		676,250	(2) 176,250		500,000
Surplus		12,000	22,500		3,675		210,735		214,410	(2) 3,675		210,735
Sales	26		1,200,000		312,000		1,042,000		1,354,000	(1) 196,950		1,157,050
Cost of sales	actual & average	715,500		181,200		848,300		1,029,500		(1) (190,650)	838,850	
Selling and general expense		285,000		80,700		80,000		160,700			160,700	
Exchange			3,000		18,915				18,915			18,915
Dividend	actual	22,500		5,850		30,000		35,850		(2) (5,850)	30,000	
		1,770,000	1,770,000	558,450	558,450	1,849,735	1,849,735	2,362,825	2,362,825		1,985,950	1,985,950